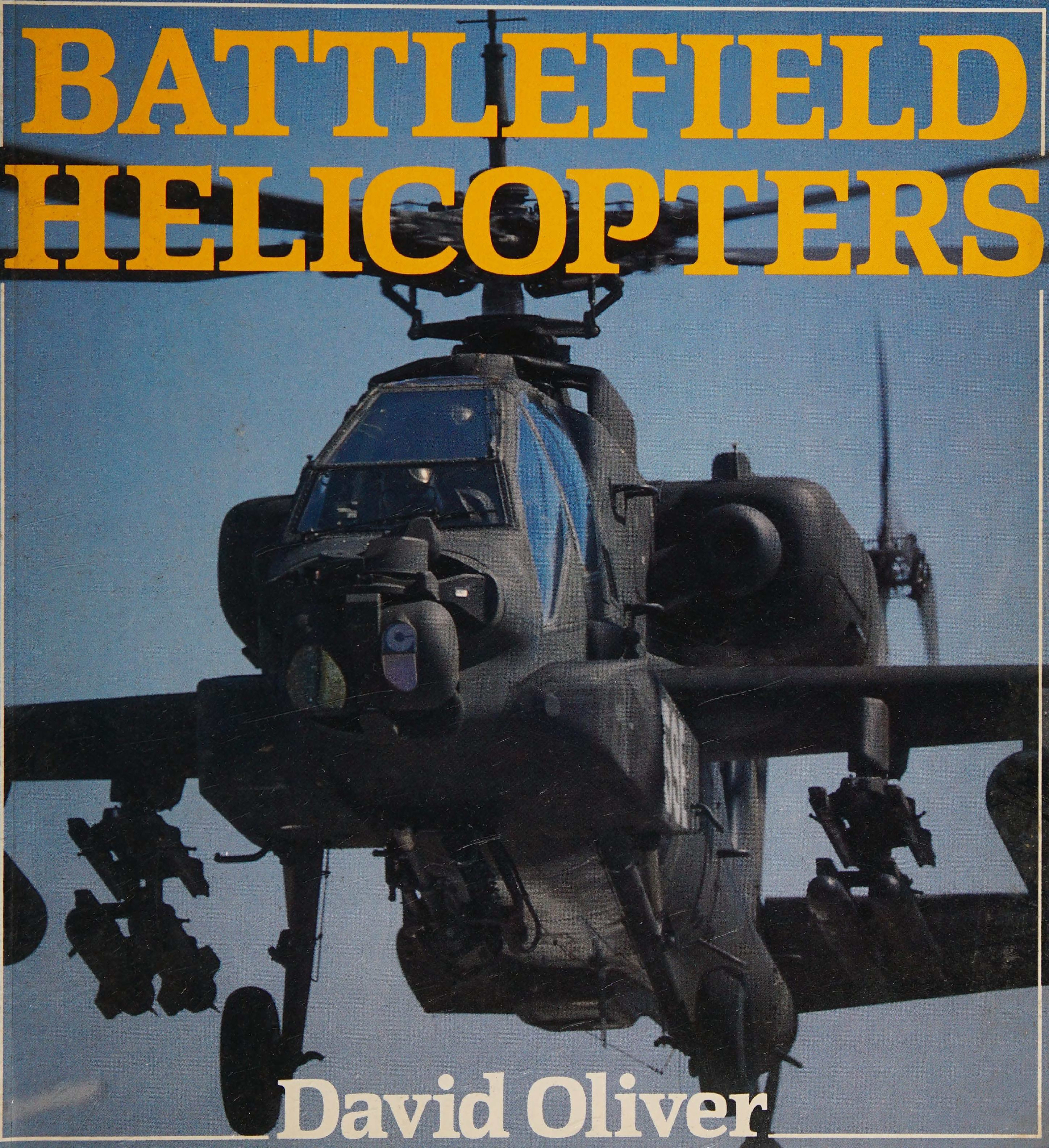
BATTLEFIELD HELICOPTERS

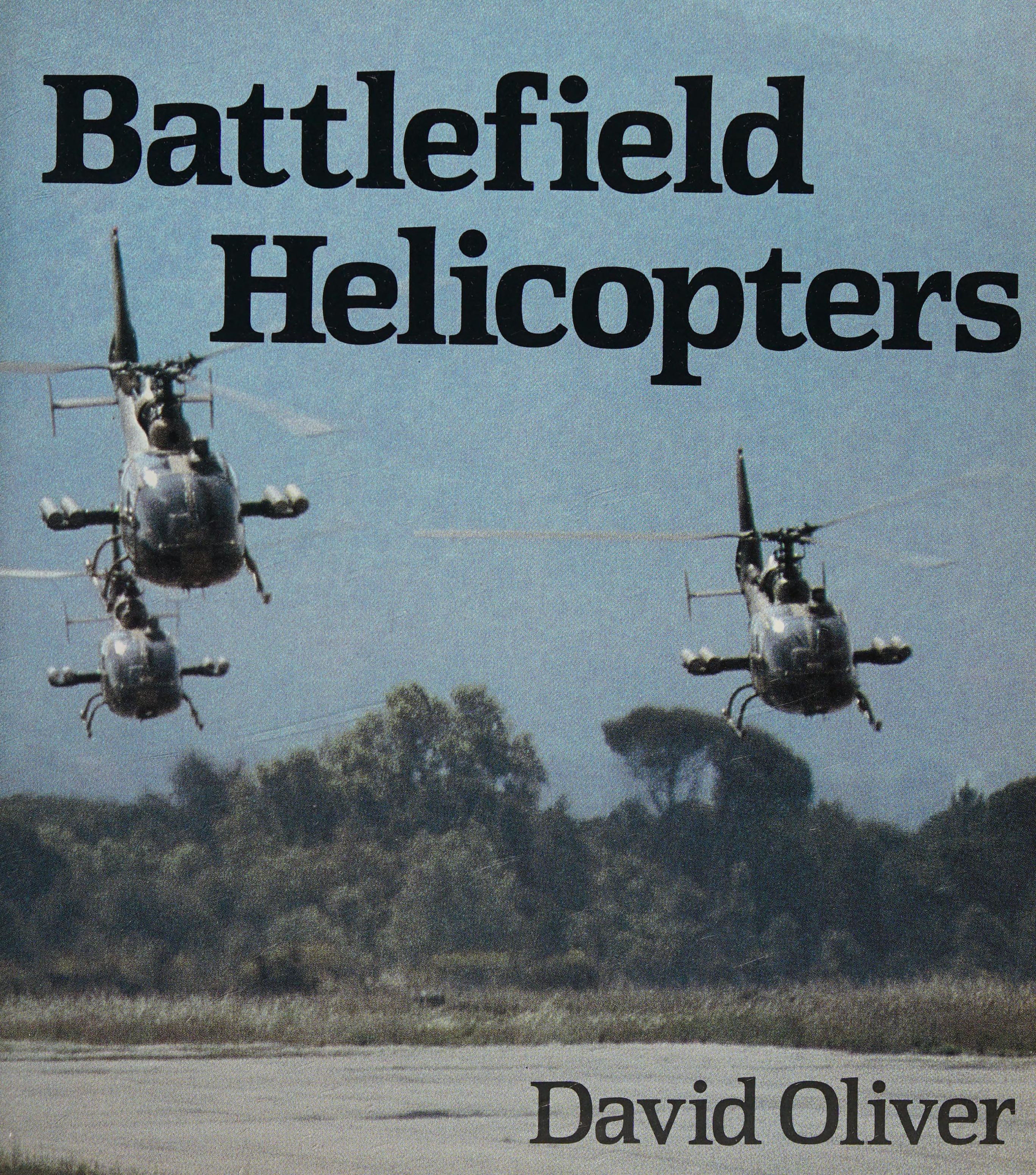


David Oliver

Battlefield Helicopters

Osprey Colour Series

Battlefield Helicopters



David Oliver

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Front cover Mega mean: armed with Quad Hellfire missiles, two 2.75-inch rocket launchers, and a Hughes M230 automatic 30 mm Chain Gun, the McDonnell Douglas AH-64A Apache anti-armour attack helicopter has the firepower to knock-out any known main battle tank (MBT). The Apache is as tough as it looks, and this sight is surely enough to give even the toughest enemy tank commander recurrent nightmares

Title pages *Apocalypse Now*? Four HOT-armed SA.342M Gazelles and a lone SA.330 Puma of the *Aviation Legere de l'Armee de Terre* (ALAT) lift off from Le Luc in the south of France

Back cover Aboard a 12 Flight Army Air Corps (AAC) Gazelle AH.1 flying at 300 ft over northern Germany near the Dutch border. Although its main task is VIP liason from RAF Wildenrath, 12 Flight is ready to operate in the reconnaissance role to assist ground forces if additional capability is needed

25th AVN CO (CORPS)
WINGS of the JAYHAWK

180TH AVN.CO.
BIG WINDY

203
WAR EAGLES

To Wendy and The Boys

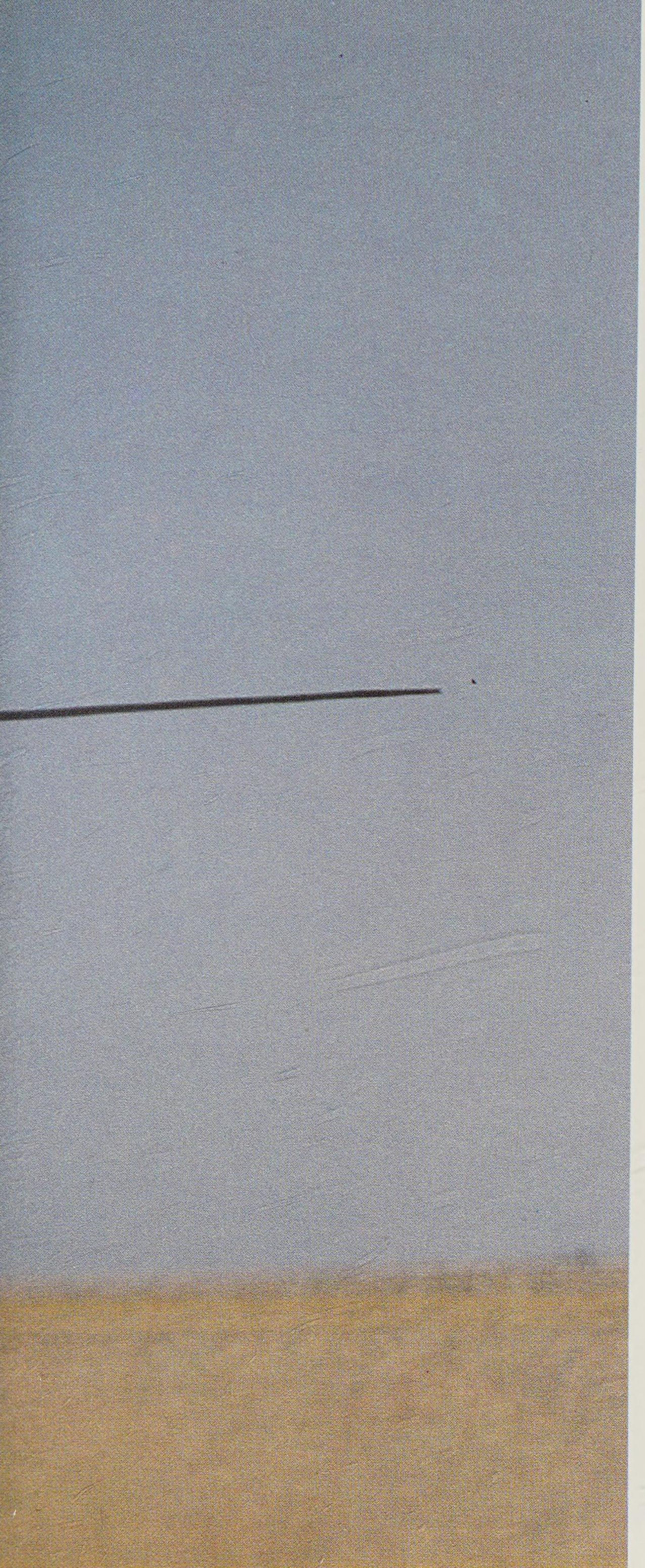
BATTLEFIELD HELICOPTERS was shot between September 1984 and March 1987 with Olympus OM2 and OM4 cameras loaded with Kodachrome 25 and 64.

The author would like to thank Major General Ellis D Parker and his staff at the US Army Aviation Center at Fort Rucker, Alabama, Robin Barrett at the UK Ministry of Defence, and the many individual unit commanders and helicopter crews who made this book possible.

Right One of the few Sikorsky HH-3E 'Jolly Green Giant' combat rescue helicopters still wearing Southeast Asia camouflage, this veteran Jolly serves with USAF Detachment 14 of the 67th Aerospace Rescue & Recovery Squadron based at Keflavik in Iceland

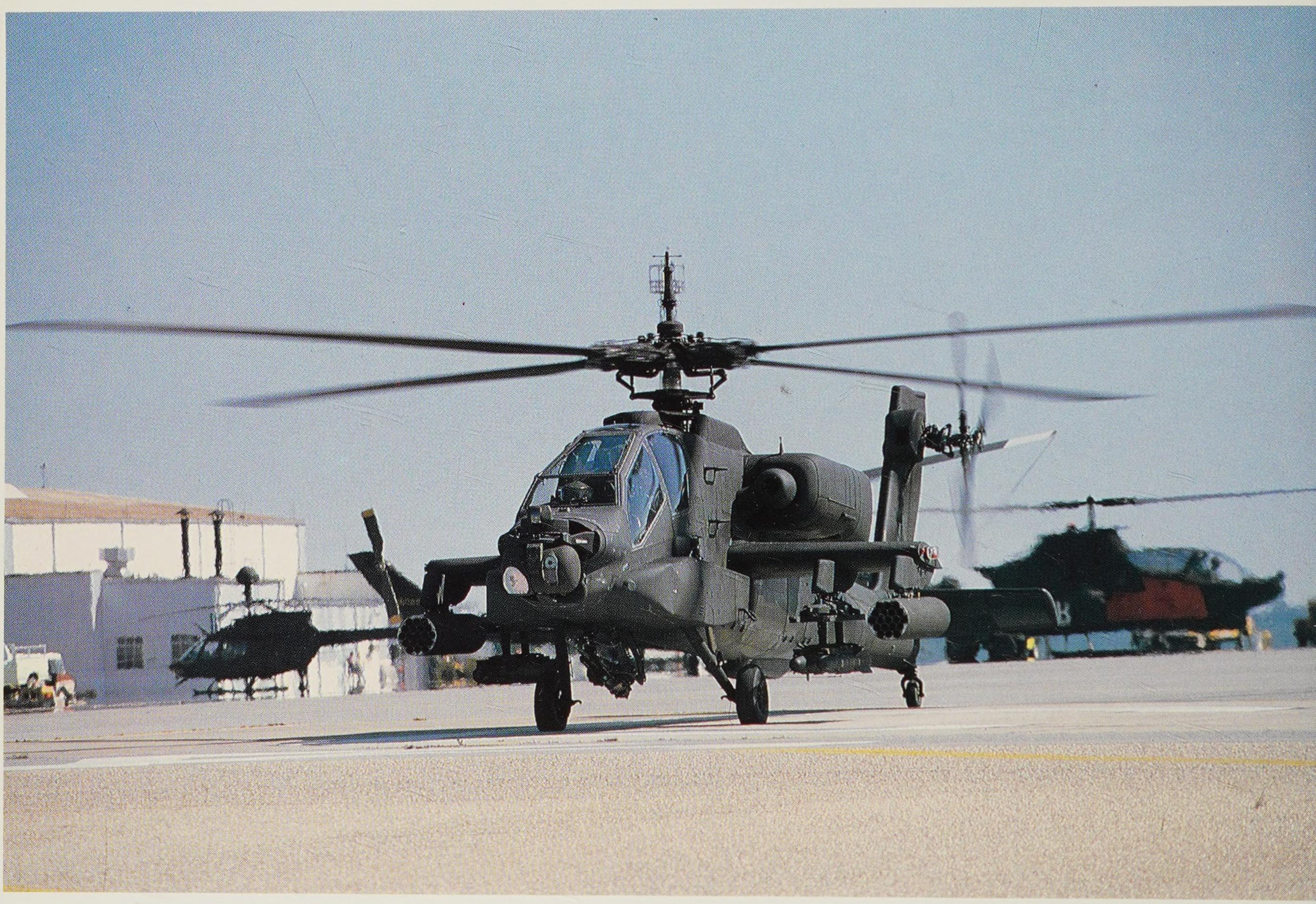
Contents

Tank killers 8
Battlefield backup 50
Observers/general duties 94
Combat rescue 114



Tank killers

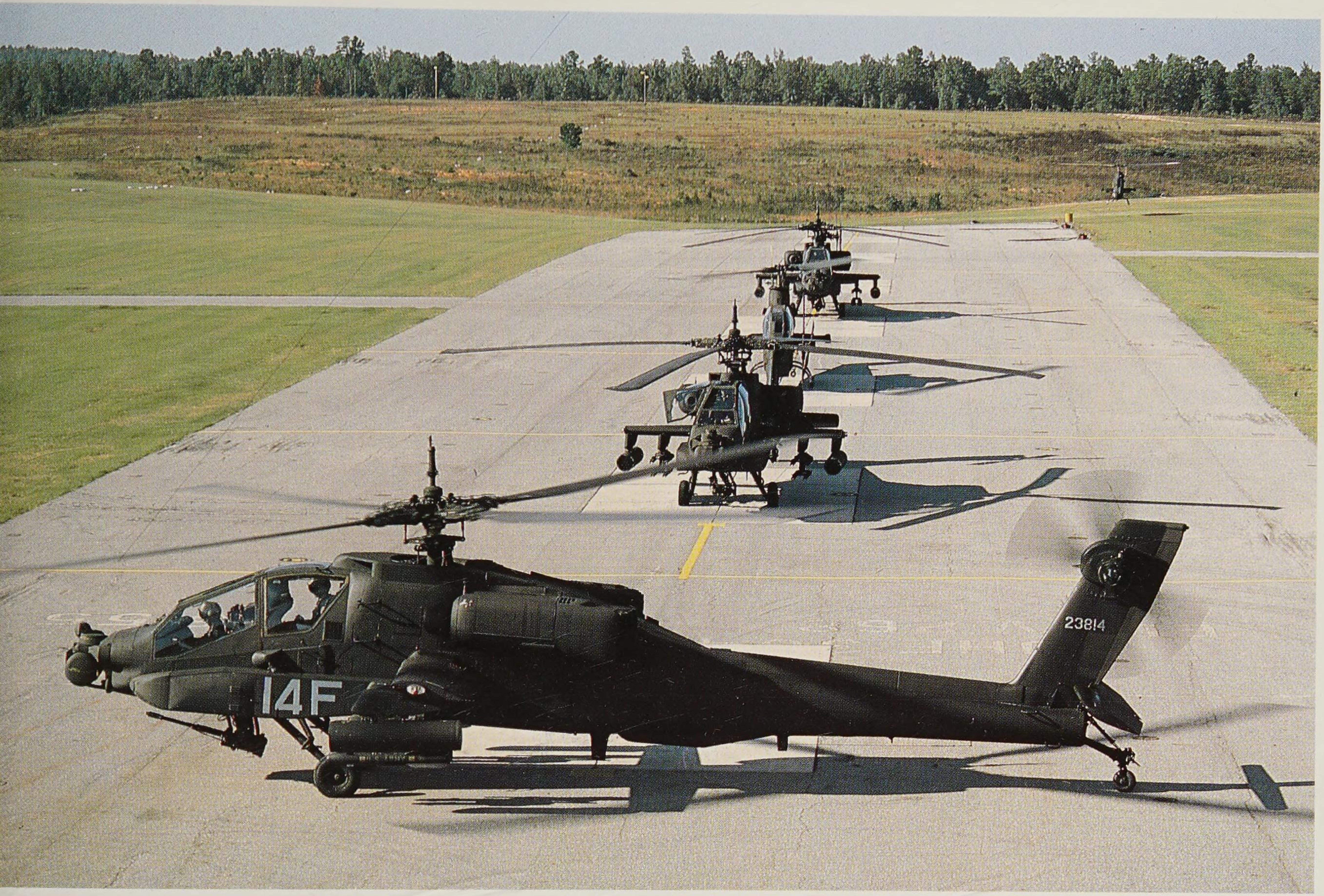
The McDonnell Douglas AH-64A Apache, the US Army's state-of-the-art two-seat anti-armour attack helicopter. This example is one of ten assigned to Task Force 1-112 from the US Army Aviation Center at Fort Rucker, Alabama, and displays the hard-hitting armament mix of Quad Hellfire missiles (about $20,000 a round) and a 19-tube, 2.75-inch rocket launcher under each stub wing, plus the excellent Hughes M230 30 mm automatic Chain Gun under the nose. The US Army has a requirement for some 1200 Apaches but, with a price tag of $13.3 million apiece, less than half that number had been authorized by Congress by mid-1987, by which time the first machines were being deployed to Europe



One of the 42 AH-64A Apaches at the US Army Aviation Center at Fort Rucker taxies to the takeoff point at Hanchey Army Heliport; OH-58D (left) and AH-1G Cobra in background

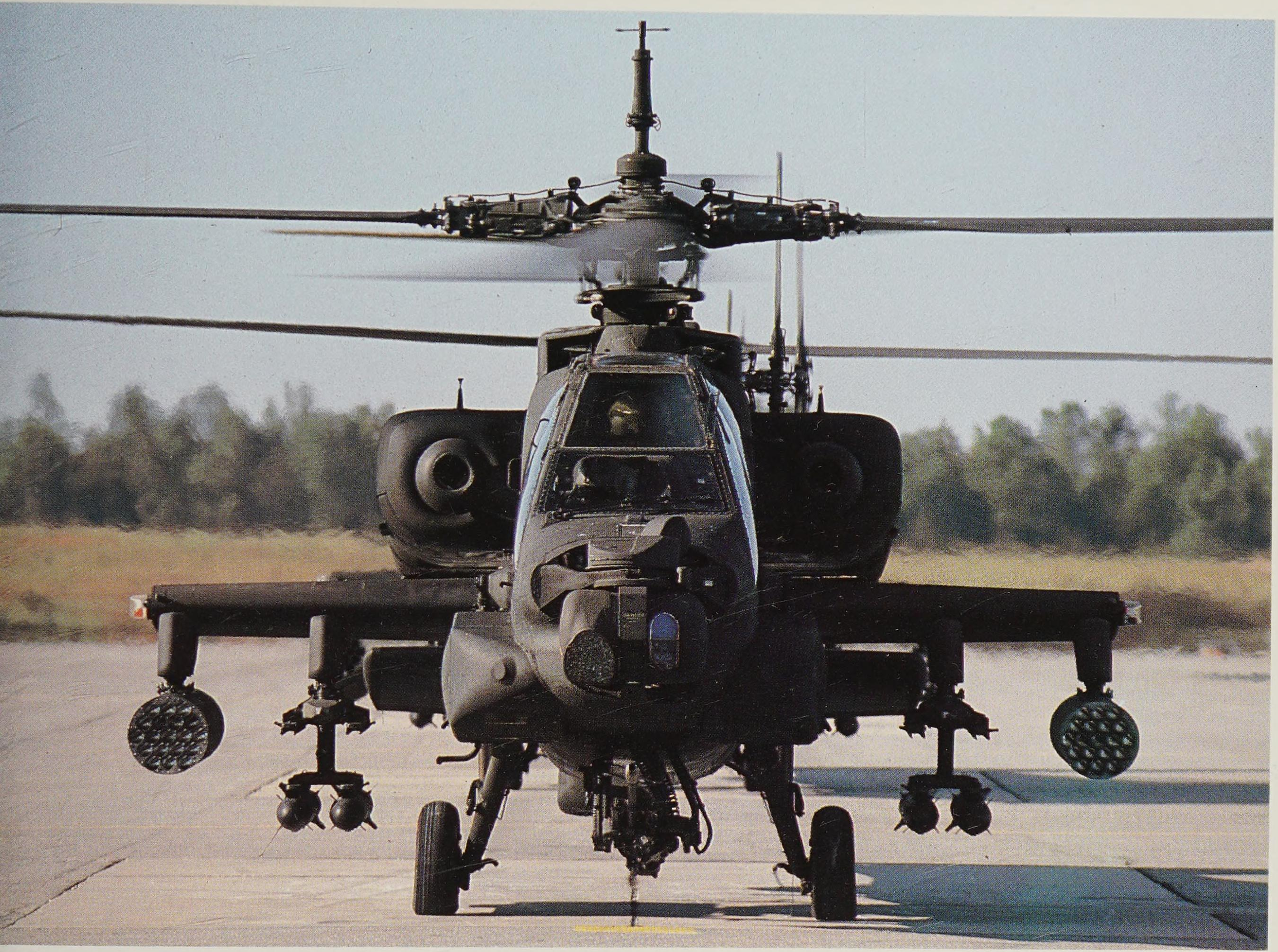
Right Despite its angular design, fixed landing gear, and draggy armament installations, the AH-64 is capable of 227 mph and has a range of 428 miles. The aircraft is powered by two widely separated General Electric T700-701 turboshafts rated at 1690 shp

Overleaf A line of AH-64s, and an AH-1 Cobra, belonging to Fort Rucker's 7th Aviation Training Battalion, queue-up at one of the Aviation Center's fifteen stage fields. The leading Apache has its nose-mounted high-tech sight in the protective 'retracted' position and has a pair of dummy Hellfire missiles under the stub-wing inboard of the rocket launchers



Left A stage field line-up of Apache and Cobra trainers, just a few of the amazing total of more than 700 helicopters based at Fort Rucker

An early production AH-64A Apache assigned to the 7th Aviation Training Battalion at Fort Rucker. The two-man crew consists of the pilot, in the raised rear seat, and copilot/gunner (CPG) in the front. With an overall length of nearly 50 ft and tipping the scales at 15,000 lb the Apache is no lightweight but is simple and responsive to fly and popular with its crews



Left The 48 ft diameter four-blade rotor claws one of Fort Rucker's AH-64A Apaches into the air while a Cobra waits to take off in the background

A good view of the AH-64 Apaches's $1 million nose, which houses the target acquisition designation sight (TADS) with a forward looking infrared (FLIR) night sensor, is behind the flat panel on the left and a TV/Optical system for daylight is on the right. Above the unit and pointing to the right is the pilot night vision sensor (PNVS) that feeds information through the pilot's integrated helmet and display sight system (IHADSS)

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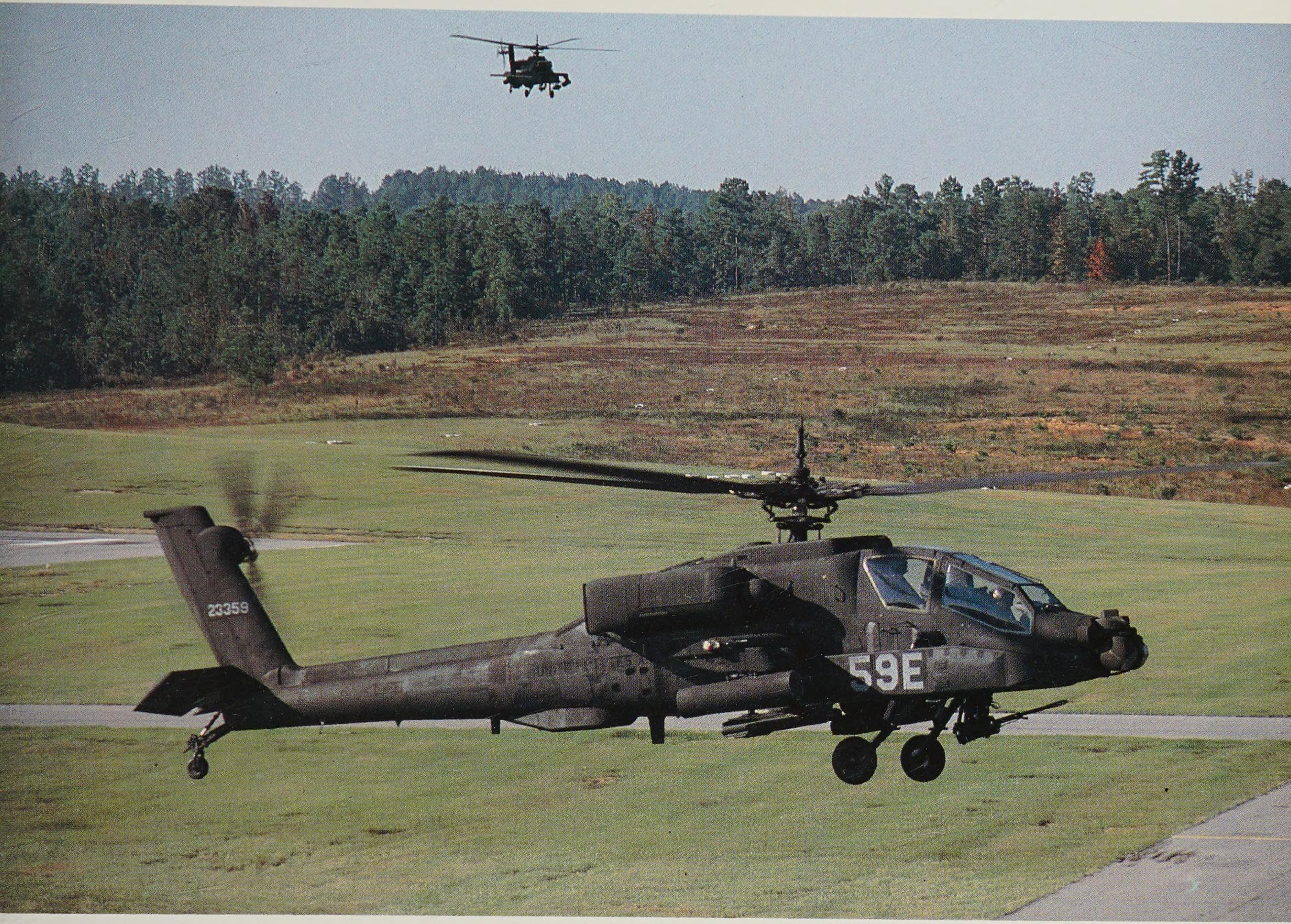
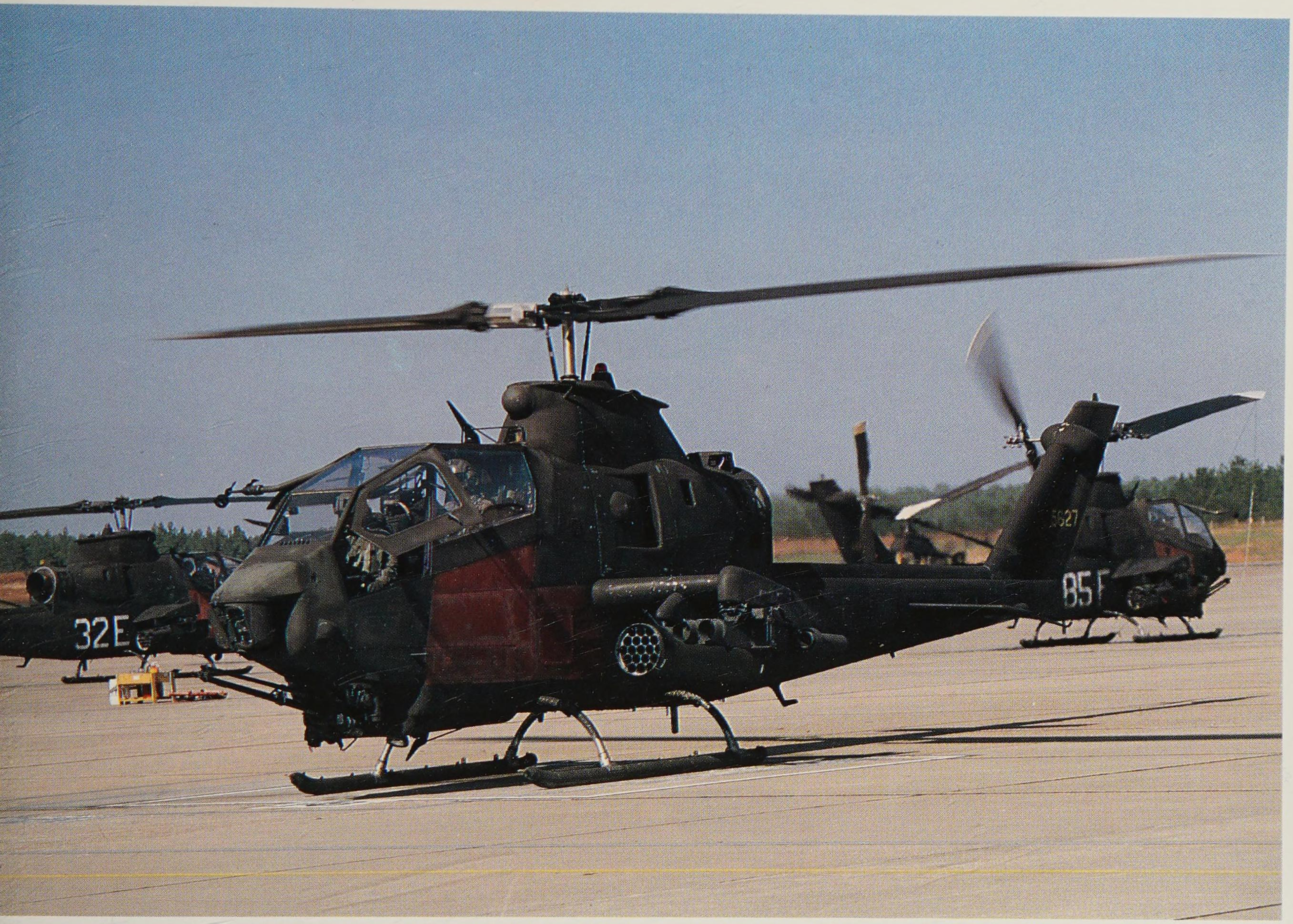


Left A 7th Aviation Training Battalion AH-64 Apache, one of 32 assigned to the unit, in straightline low-level flight over one of Fort Rucker's many stagefields

As Fort Rucker covers some 67,000 acres of Alabama real estate, it is seldom that two Apaches are seen together in the same airspace. Beneath the nose is the AH-64's Hughes M230 cannon, which fires 625-750 rounds per minute, able to swivel 120 degrees left or right and elevate from plus 30 degrees up to minus 60 degrees down and is spring-loaded to point forward when not in use

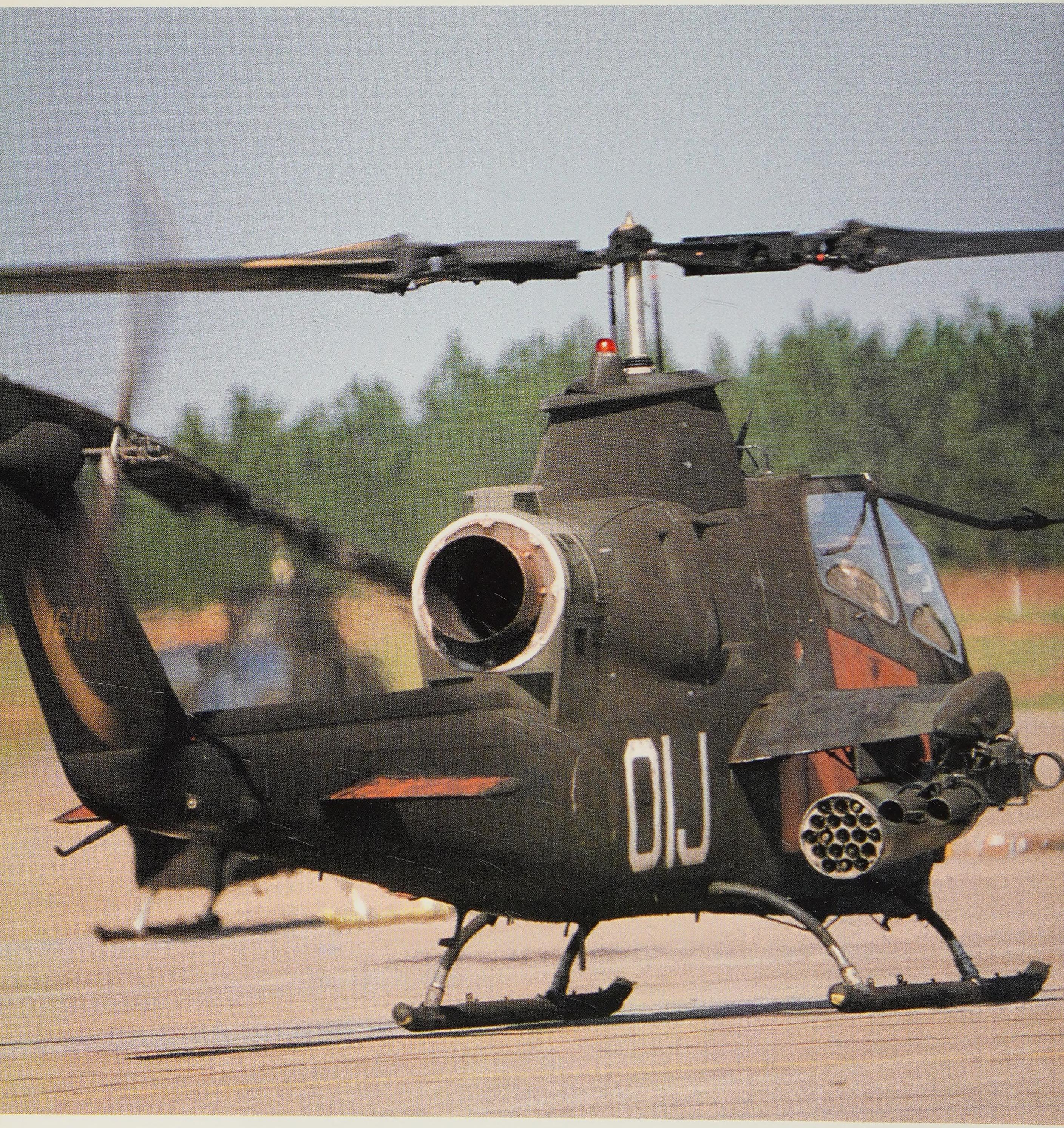
Left A view of one of Fort Rucker's AH-64A Apaches showing clearly the separated blades of the tail rotor and Black Hole IR (infrared) suppressed exhaust baffles

The AH-64A Apache has an all-weather day or night capability and the example seen here on Hanchey's flight-line silhouetted against a colourful Alabama sun set was photographed in the fall of 1986



Left A 7th Aviation Training Battalion AH-1S HueyCobra, the original dedicated attack helicopter, running-up at Hanchey Army Heliport at Fort Rucker. The copilot/gunner (CPG) in front of the pilot under the flat-plate canopy is responsible for firing the TOW missiles, fitted outboard of the underwing M20 2.75-in rocket launchers, using the FLIR-augmented Cobra TOW sight (FACTS) mounted in the nose, and the M197 three-barrel 20 mm cannon fitted under the nose. Projecting fron the right-hand side of the canopy is a low-speed sensor

Most of the 100 plus AH-1S Cobras serving with the 7th Aviation Training Battalion based at Hanchey Heliport, Fort Rucker, wear distinctive orange patches, the US Army's learner-plates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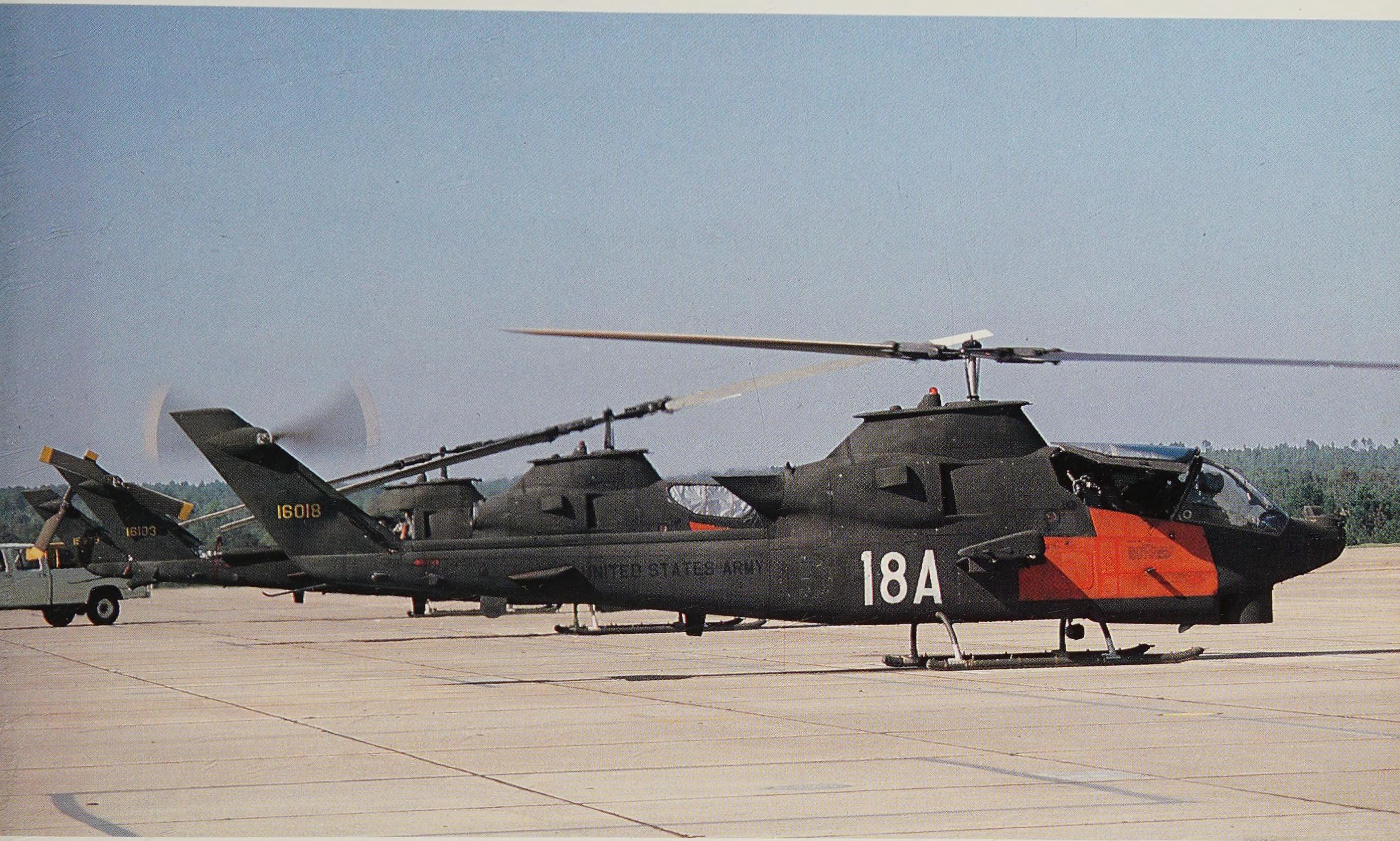
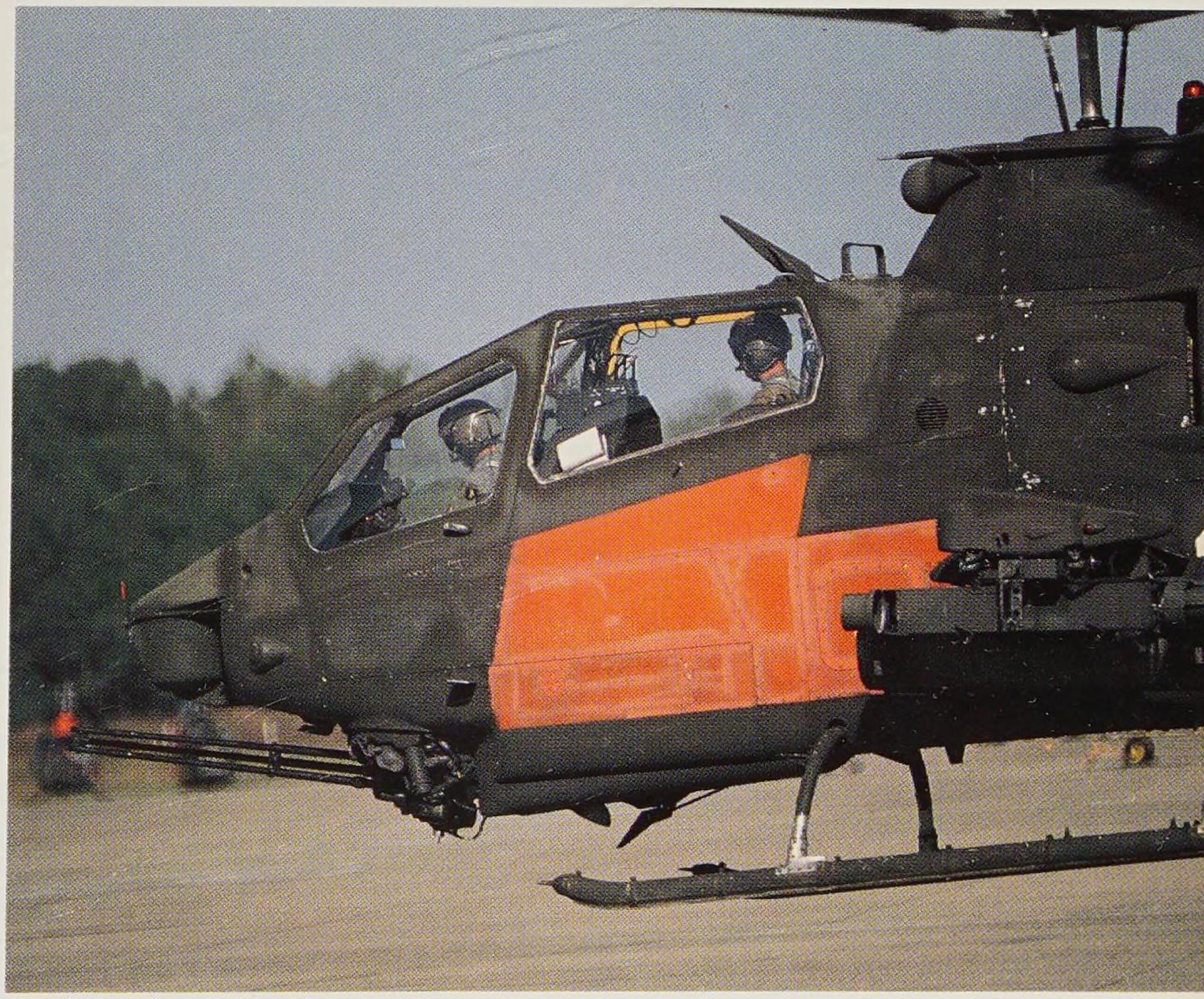
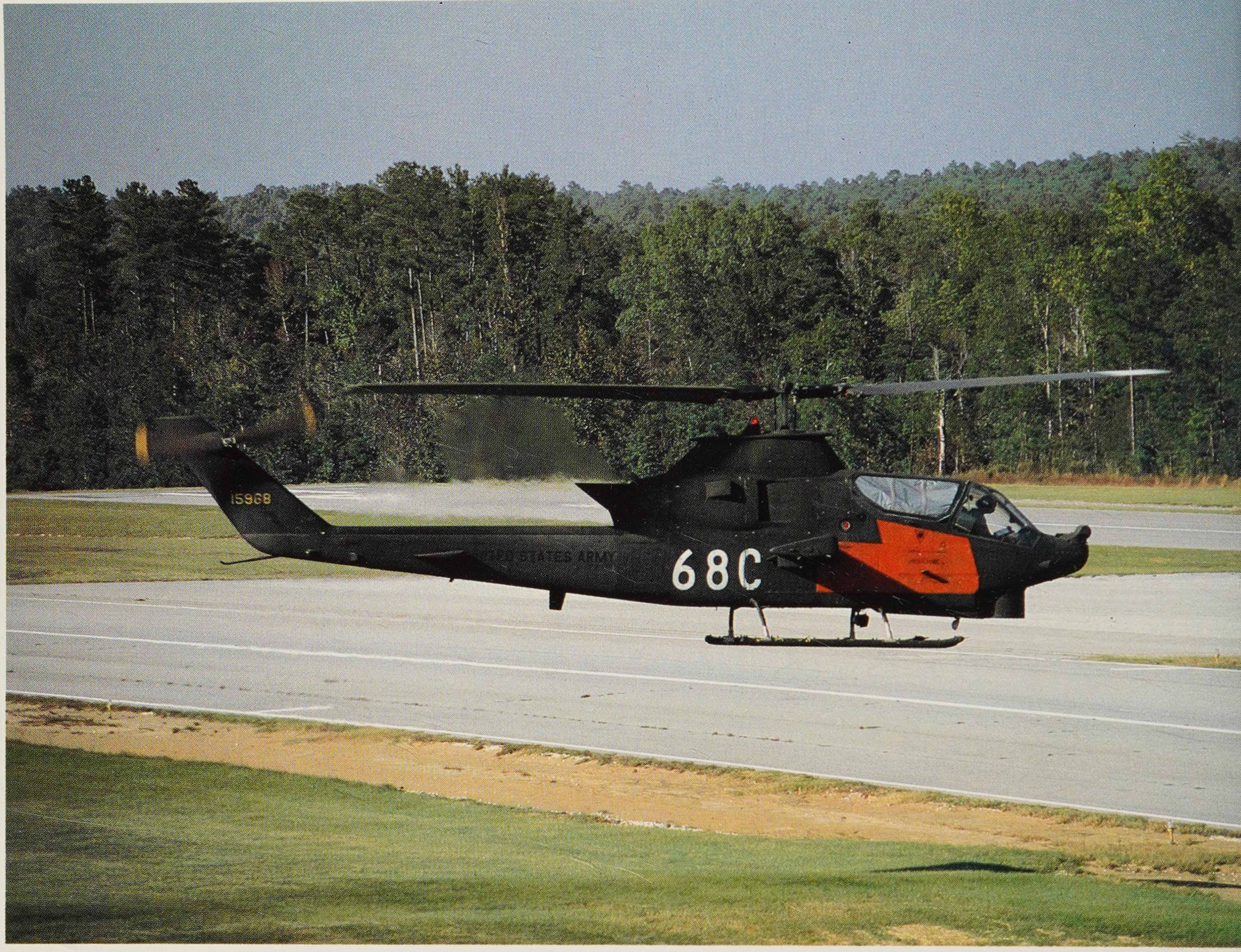


Left Rear view of a well-worn AH-1S HueyCobra seen running up at Hanchey's crowded Heliport showing its short unsuppressed exhaust. **Above** A line-up of AH-1G Cobra 'Surrogates', a type unique to Fort Rucker and used to transition experienced pilots to the AH-64A Apache's night flying system. A total of 10 disarmed AH-1Gs, many of them Vietnam veterans, equipped with PNVS (pilot night vision sensor) and a blacked-out rear cockpit give the transitioning pilot 15 hours of instrument only night flying experience. Although all are seasoned aviators, the disorientating blacked-out rear cockpit induces airsickness for many of them in the initial stages of the transition course. **Right** An AH-1S Cobra lifts off from Hanchey Heliport, at peak training times the worlds busiest heliport, on a pilot training mission showing the non-reflective flat-plate canopy of the later models and the cable cutter above the pilot's position





Above A 7th Aviation Training Battalion AH-1G Cobra disarmed 'Surrogate' at low-level over one of Fort Rucker's stagefields. Note the blacked-out rear cockpit and upturned exhaust from the 1400 shp Avco Lycoming T53-13 turboshaft

Right One of Fort Rucker's unique AH-1G Cobra 'Surrogates' showing to advantage its slim frontal area, old-style rounded canopy and pilot night vision sensors (PNVS) on the nose and under the fuselage. The turret under the nose originally housed a six-barrel GAU-2A 7.62 mm machine gun with 8000 rounds

Overleaf Three AH-1S Cobras of the 7th Aviation Training Battalion on the arming ramp at one of the two live-weapons ranges within the Fort Rucker complex, where 20 mm ammunition for the M197 cannon is loaded and 2.75-in rockets installed in the launchers

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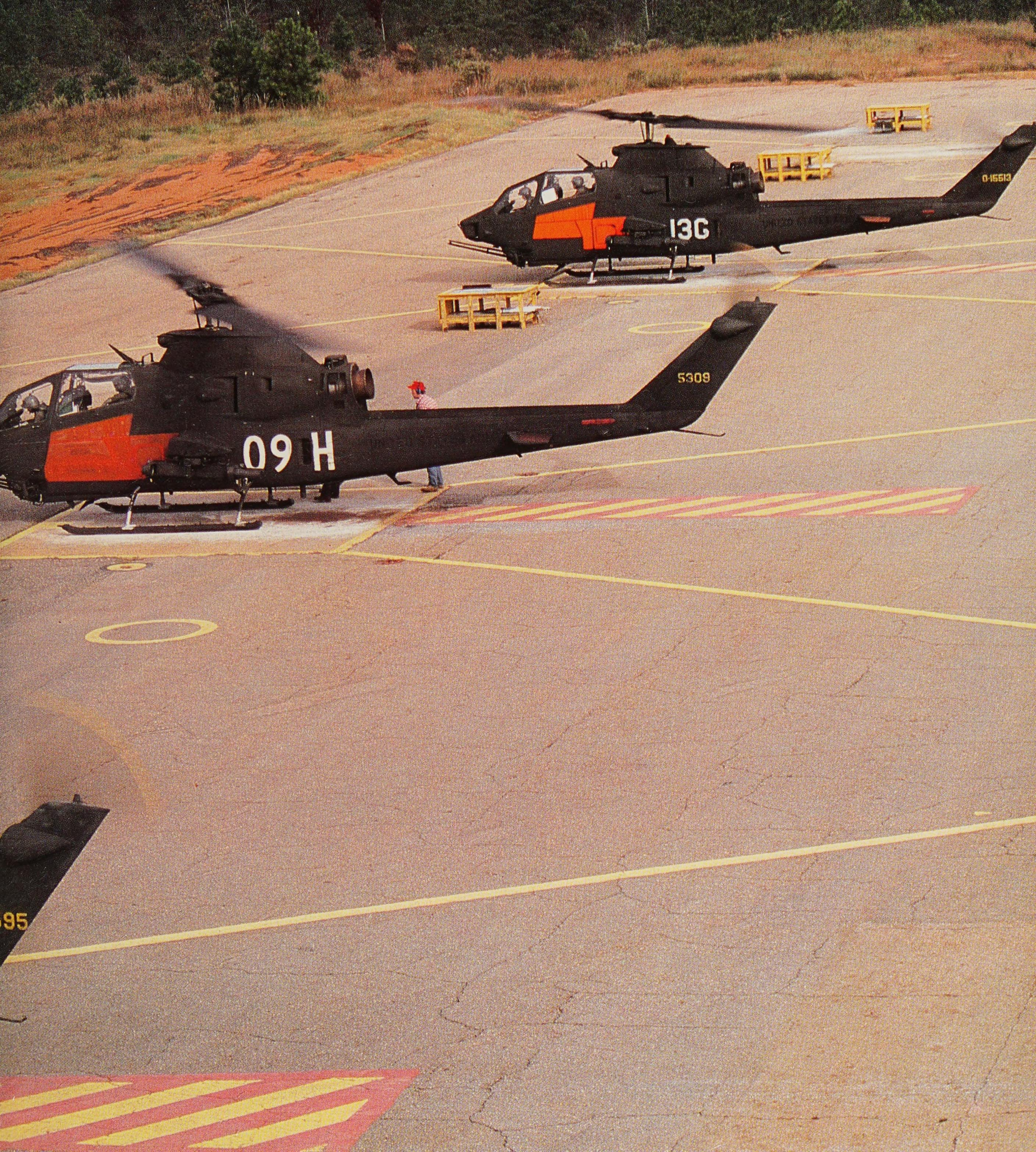
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Two of 1075 AH-1G Cobras acquired by the US Army lift off from one of Fort Rucker's numerous training fields. Pilots undergoing conversion training to the Apache-type PNVS fly from the blacked-out rear cockpit

Right A AH-1S Cobra belonging to the 7th Aviation Training Battalion on its way to the Matson Range at Fort Rucker. The pilot in the rear cockpit has his sights firmly on the head-down display in front of him (*Playboy*?)

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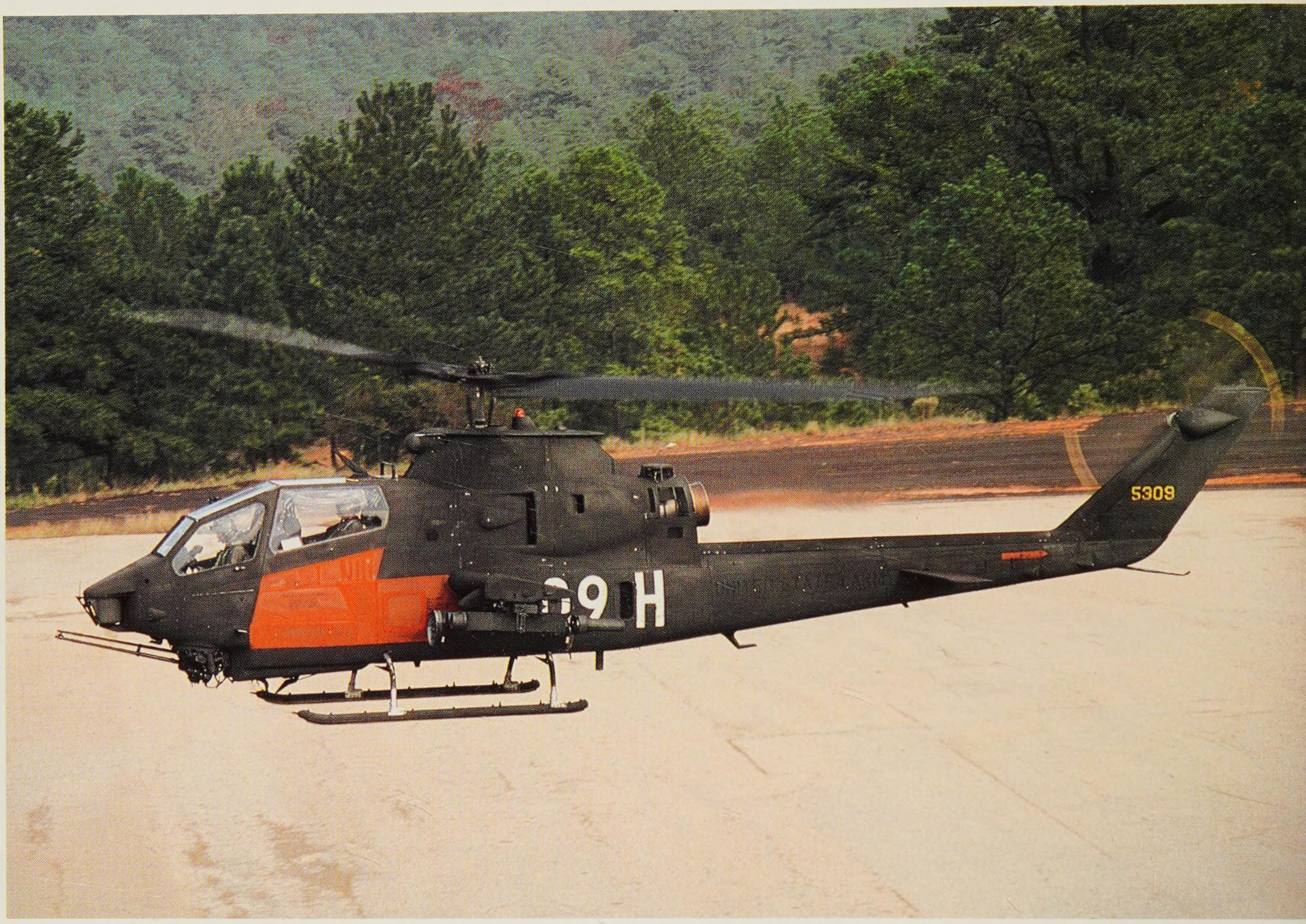
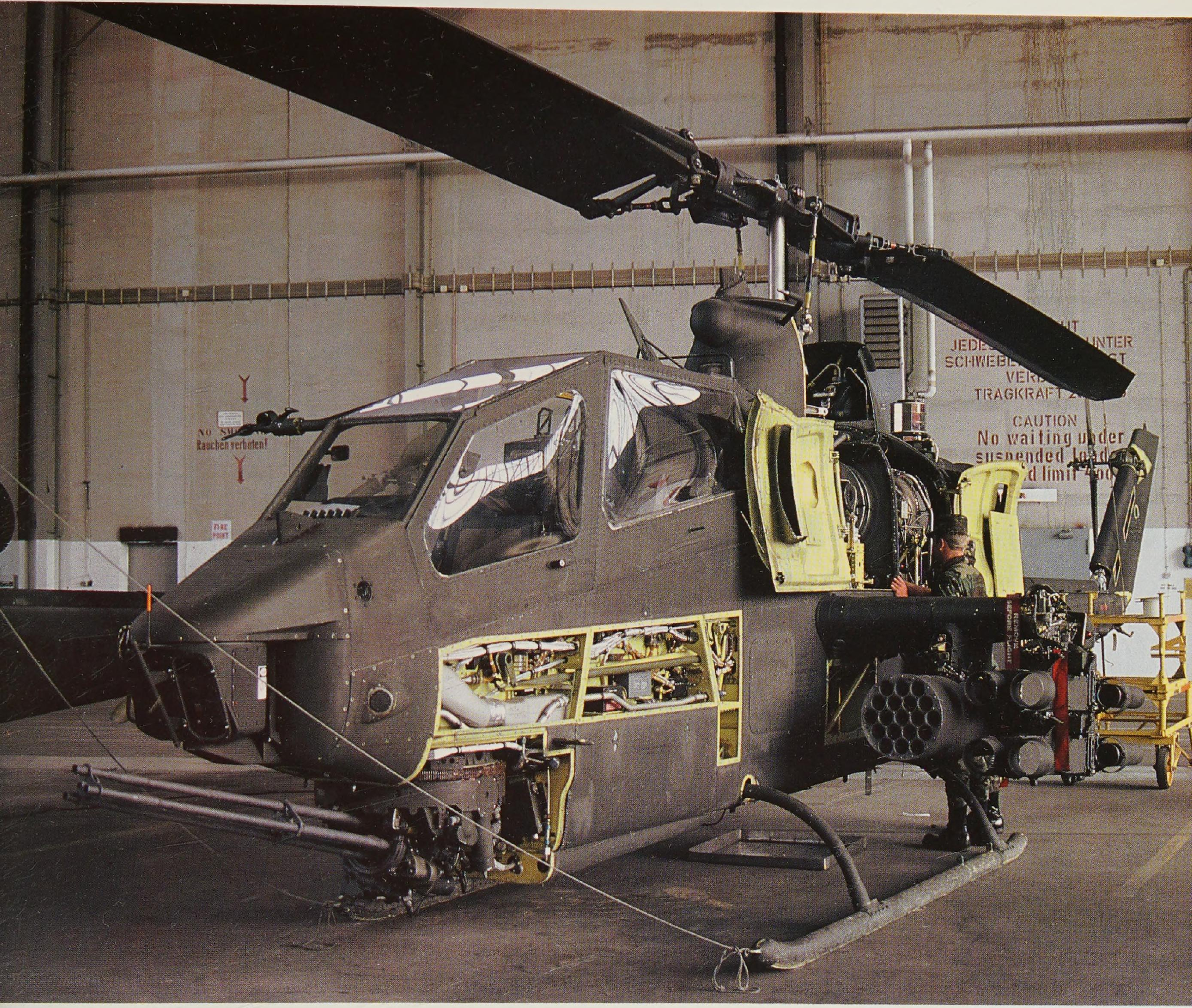
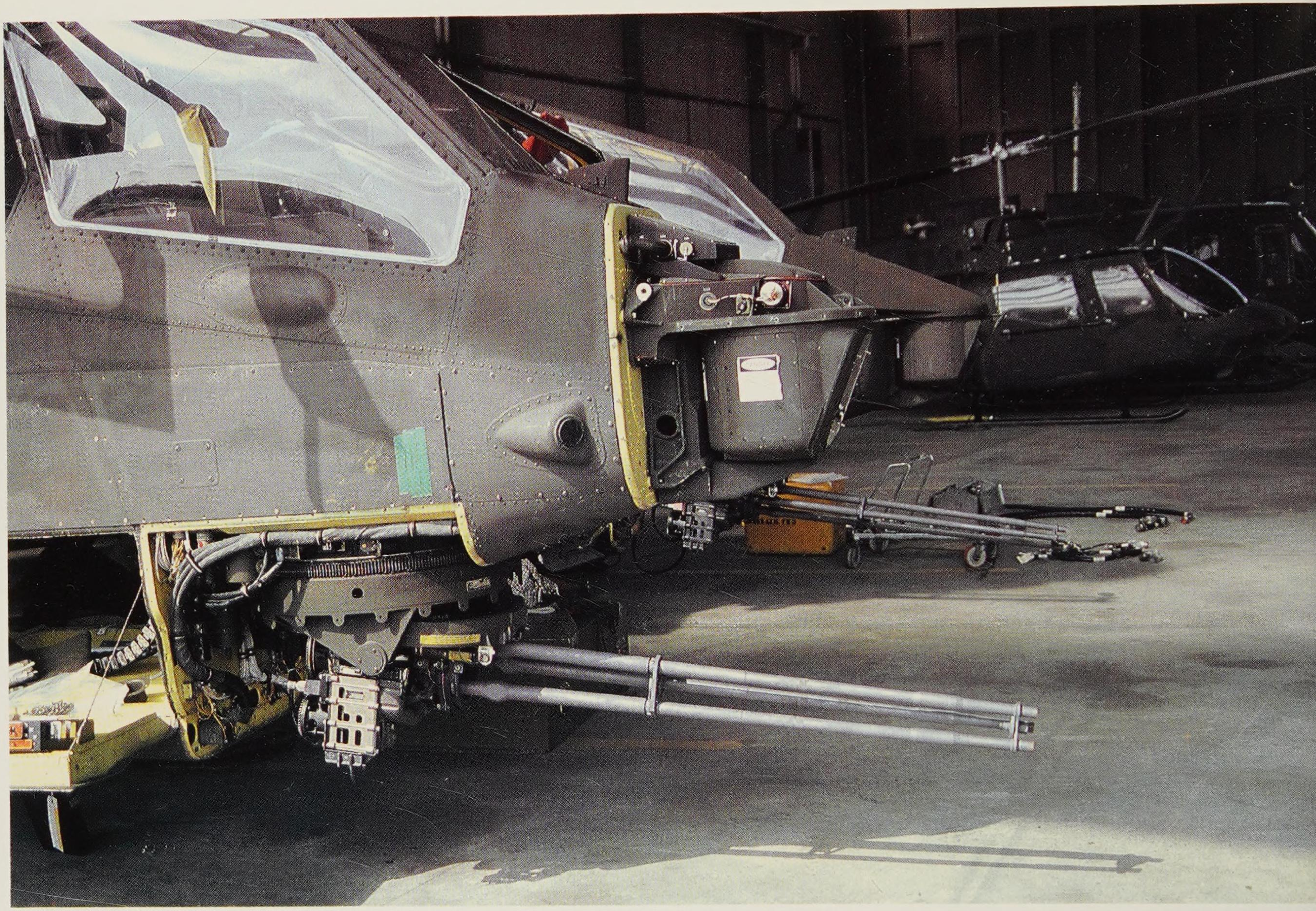


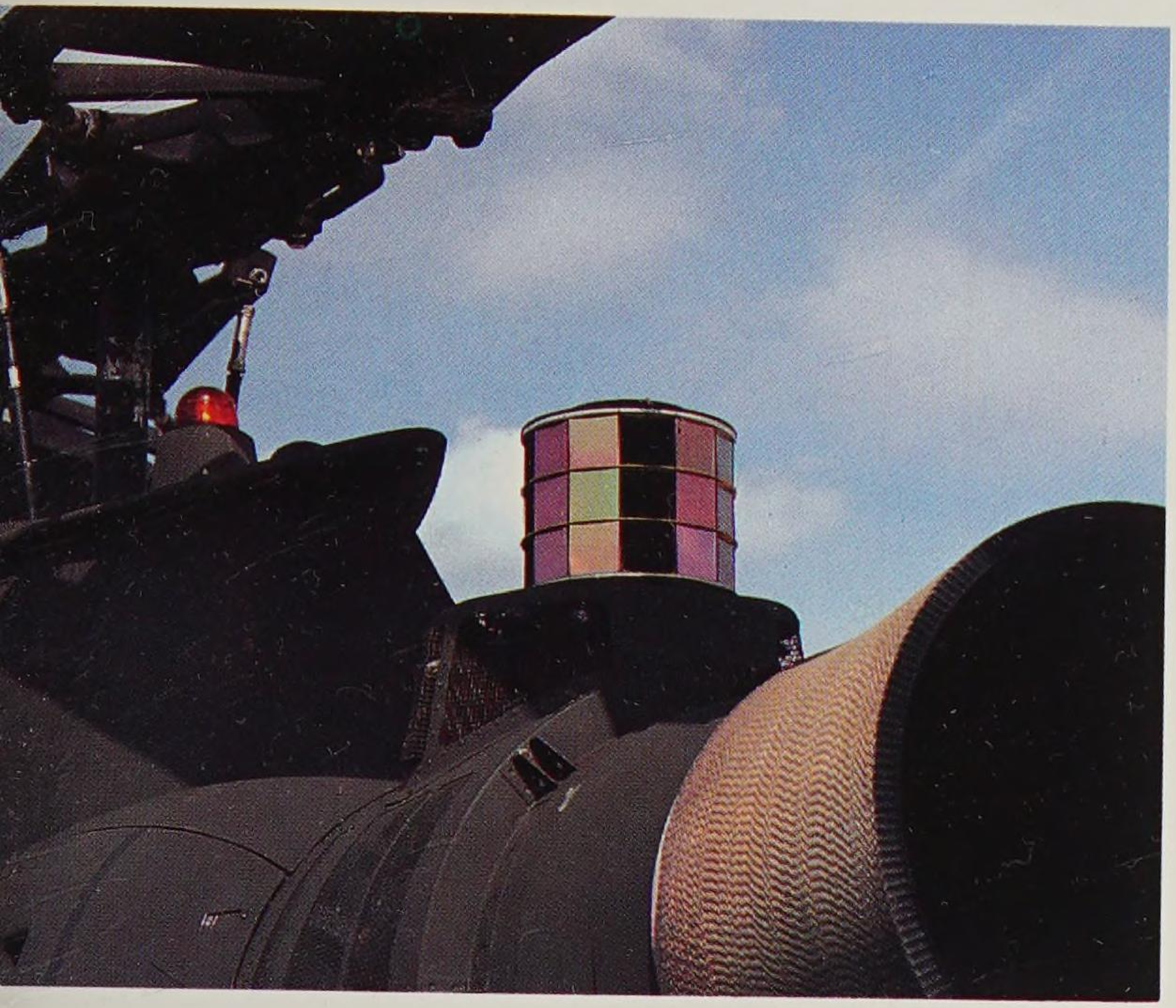
The US Army plan to acquire almost 1000 AH-1S Cobras powered by the uprated 1800 shp Avco Lycoming T53-703 turboshaft. Although having lower maximum speed than the original AH-1G, the -1S is capable of carrying a greater weapons load and more sophisticated systems. 'Zero Nine Hotel' belongs to the 7th Aviation Training Battalion based at the US Army Aviation Center at Fort Rucker, Alabama


Rauchen verboten!
TRAGKRAFT
CAUTION
No waiting under

An AH-1S Cobra belonging to the 2nd Combat Aviation Squadron (2nd CAS) of the US Army's 2nd Armoured Cavalry based at Feucht Army Airfield near Nurnberg in West Germany. The open panels give maintainance crews easy access to the Cobras vital parts — especially the T53 engine and M197 cannon turret

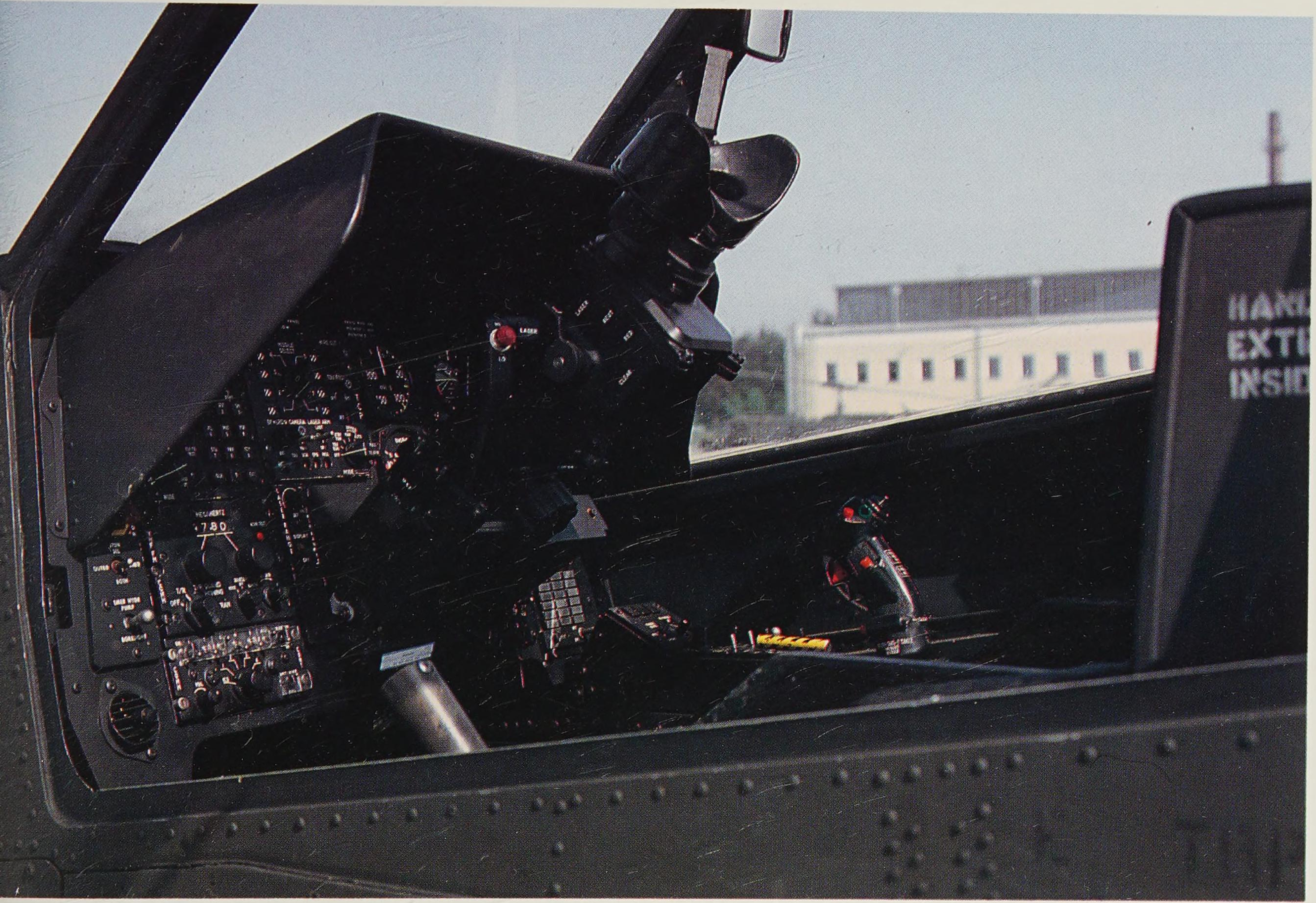


A 2nd CAS AH-1S Cobra undergoing maintenance at Feucht showing its exposed FLIR augmented Cobra TOW sight (FACTS) in the nose and M197 three-barrel 20 mm cannon installation. The gun is limited to slewing 110 degrees each side, 30 degrees up and 50 degrees down. The small eyelet above the gun is a radar-warning receiver



ALQ-144 IRCM (infrared countermeasures) jammers are issued to units, in this case the 2nd CAS at Feucht, and fitted to its AH-1S Cobras in the field

Below The interior of the AH-1S Cobra copilot/gunner's cockpit showing gun and TOW missile sights; the rockets are fired by the pilot in the rear cockpit, and the side-mounded joystick on the right hand side enables the Cobra to be flown from the front seat



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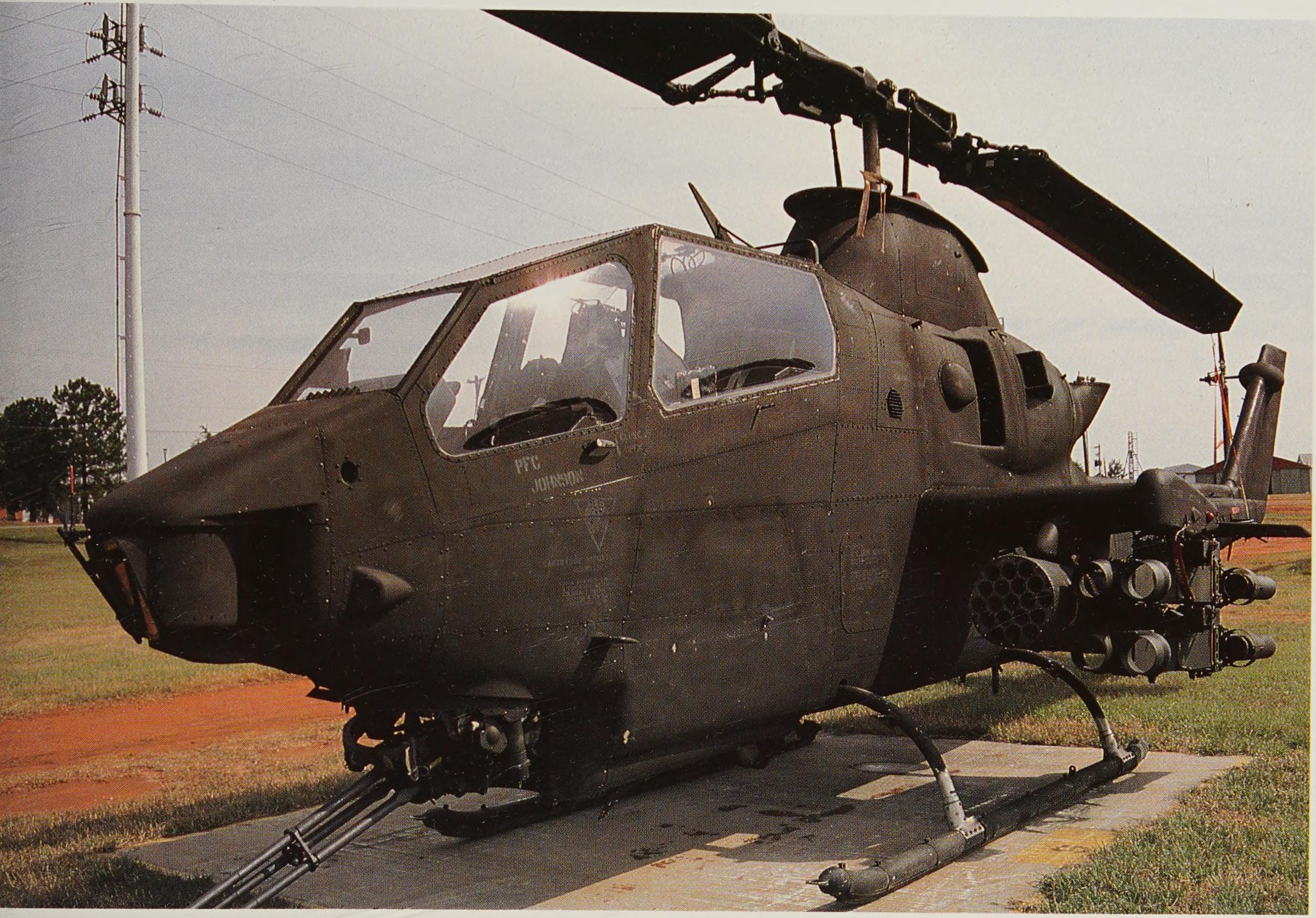
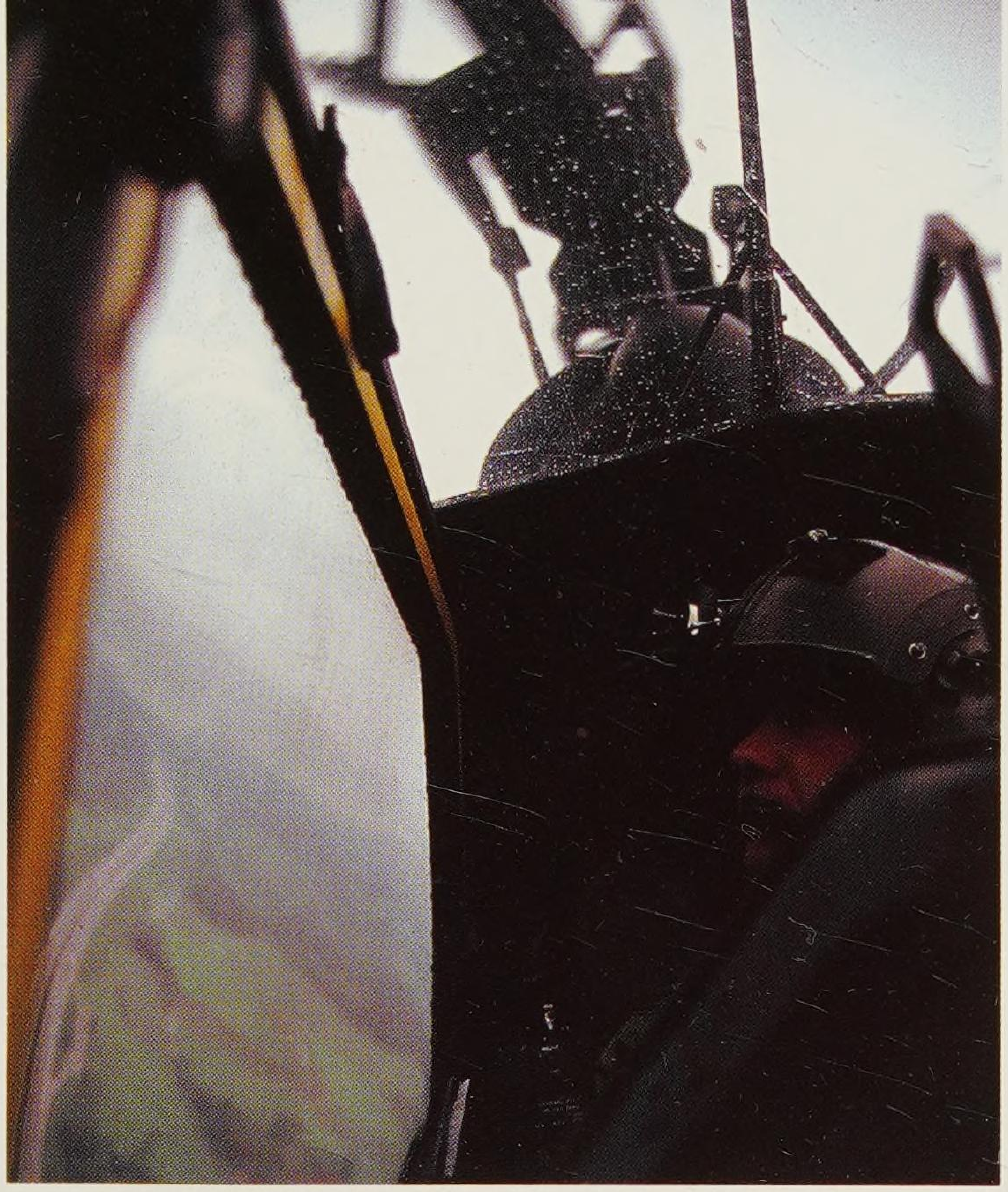


Left One of 21 AH-1S Cobras belonging to Delta Troop of the 229th Attack Helicopter Battalion, 101st Airborne Division (Air Assault) of Vietnam fame, based at Fort Rucker, Alabama in November 1986, and the only one that claims to have 'shot down' two USAF A-10 'Warthogs', hence the outlines stencilled under the cockpit. This remarkable achievement occured during a series of exercises to determine the feasibility of arming the Cobra with anti-air weapons such as the Sidewinder

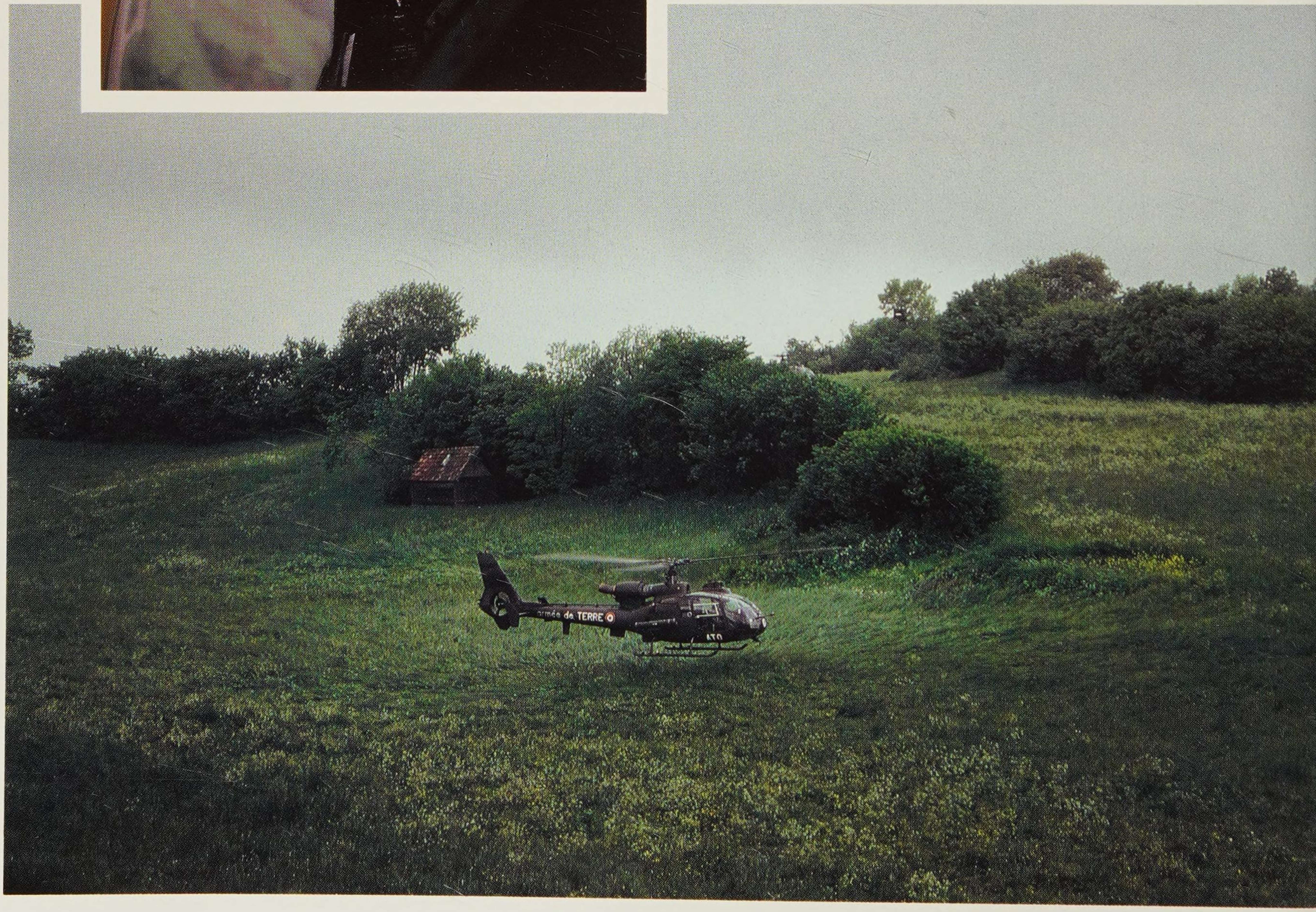
Above The days of shark teeth 'nose art' and individual names painted on helicopters ceased when the US Army left Vietnam and the present fashion for low-visibility military markings give little scope for crews with an artistic bent. However, the crew chief of this TOW and rocket armed AH-1S Cobra with an up-turned tailpipe, belonging to the 229nd AHB at Fort Rucker, has managed to have his name and the unit badge stencilled on the side

Overleaf Seen hover-taxying at Feucht Army Airfield in June 1986, is an AH-1S of Bravo Troop, 2nd CAS (Combat Aviation Squadron) carrying a Quad TOW launcher and M20/19 rocket launcher under each stub wing. The bump above the pilot's rear cockpit is the laser sight unit. Bravo and Charlie troops are attack formations available to the US Army's 2nd Armoured Cavalry Regiment (ACR) for offensive, defensive and deep strike missions



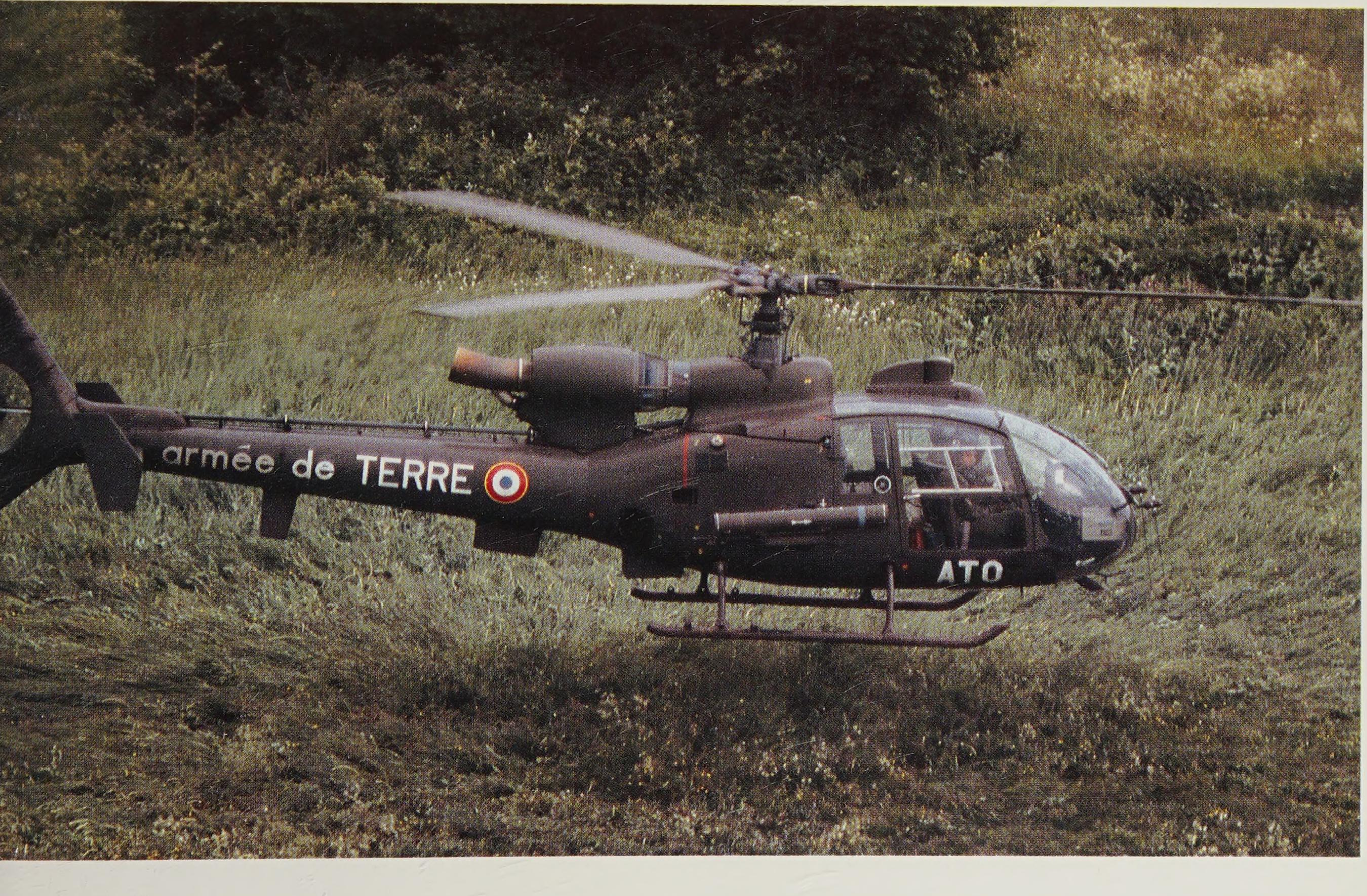
Inset Pilot Radar Opgaard in the rear cockpit of a 2nd CAS AH-1S Cobra wearing his helmet-mounted sight flying near Nurnberg on a dismal wet day in mid-June 1986. The restricted forward view from the pilot's position can be seen to advantage in this shot as can the cable-cutter and laser sight above Opgaard's head

Below Two HOT-equipped ALAT (*Aviation Legere de l'Armee de Terre*) Gazelle SA. 342Ms — spot the second — belonging to the 2nd Combat Helicopter Regiment (2nd RHC) based at Friedrechshofen, assume the classic ambush position making good use of available cover afforded by the treelined hilltop. The Gazelles formed part of the Blue 'friendly' force during 'Albatross X' held in southern central Germany between 2 and 5 June 1986



The French Army was amongst the first to fit guns to helicopters in Algeria during the 1950s. This Gazelle of the 2nd RHC is hovering in the weeds in southern Germany. The units predecessor, the 4th DIM, served throughout the Algerian Campaign from 1954 to 1962. The lightly armoured Gazelle, equipped with a pair of Euromissile/HOT anti-tank missiles fired by the observer using the roof-mounted APX-397 sight, relies on speed and cunning to keep out of trouble

Overleaf One of some 60 Westland Lynx AH.1 anti-tank helicopters serving with the British Army. The Lynx carries eight TOW missiles in quadruple launchers plus eight reloads in the cabin. The missiles are sighted through the roof-mounted BAe-made Hughes TOW sight. This immaculate example is seen at RAF Abingdon, but most anti-tank Lynx are deployed with BAOR (British Army of the Rhine)



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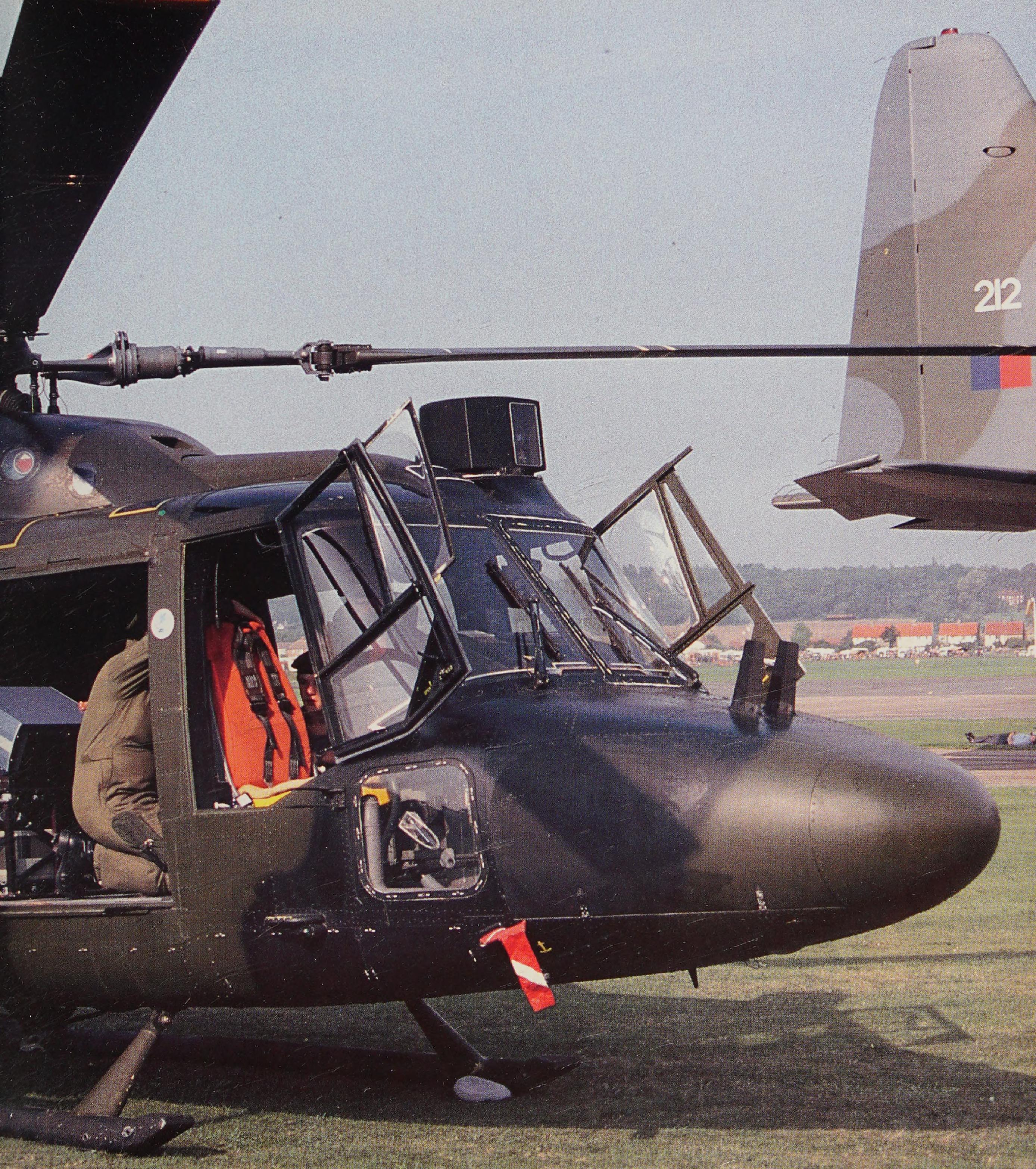
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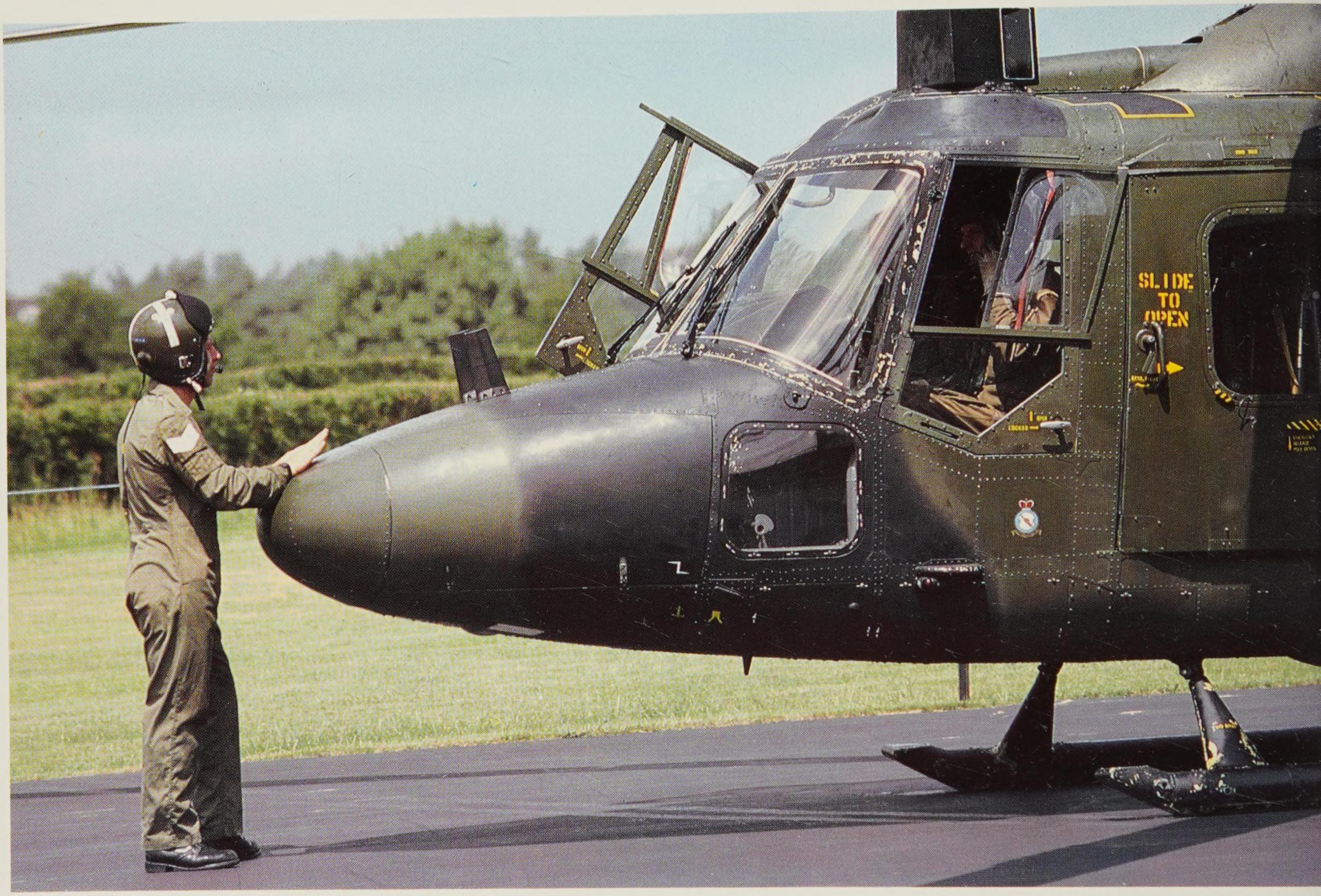


'Back up'. The pilot of Lynx AH.1 belonging to No 651 Sqn based in Germany, does a preflight check at Middle Wallop while the observer/gunner straps in beneath the roof-mounted TOW sight

Right A TOW missile-armed Lynx AH.1 of No 651 Sqn Army Air Corps seen over its base at Hildesheim in West Germany

With Salisbury Plain giving a passable imitation of the plains of northern Germany in winter, two TOW armed Lynx AH.1s belonging to the Lynx Conversion Flight at Middle Wallop stalk their target from behind the cover of the treeline

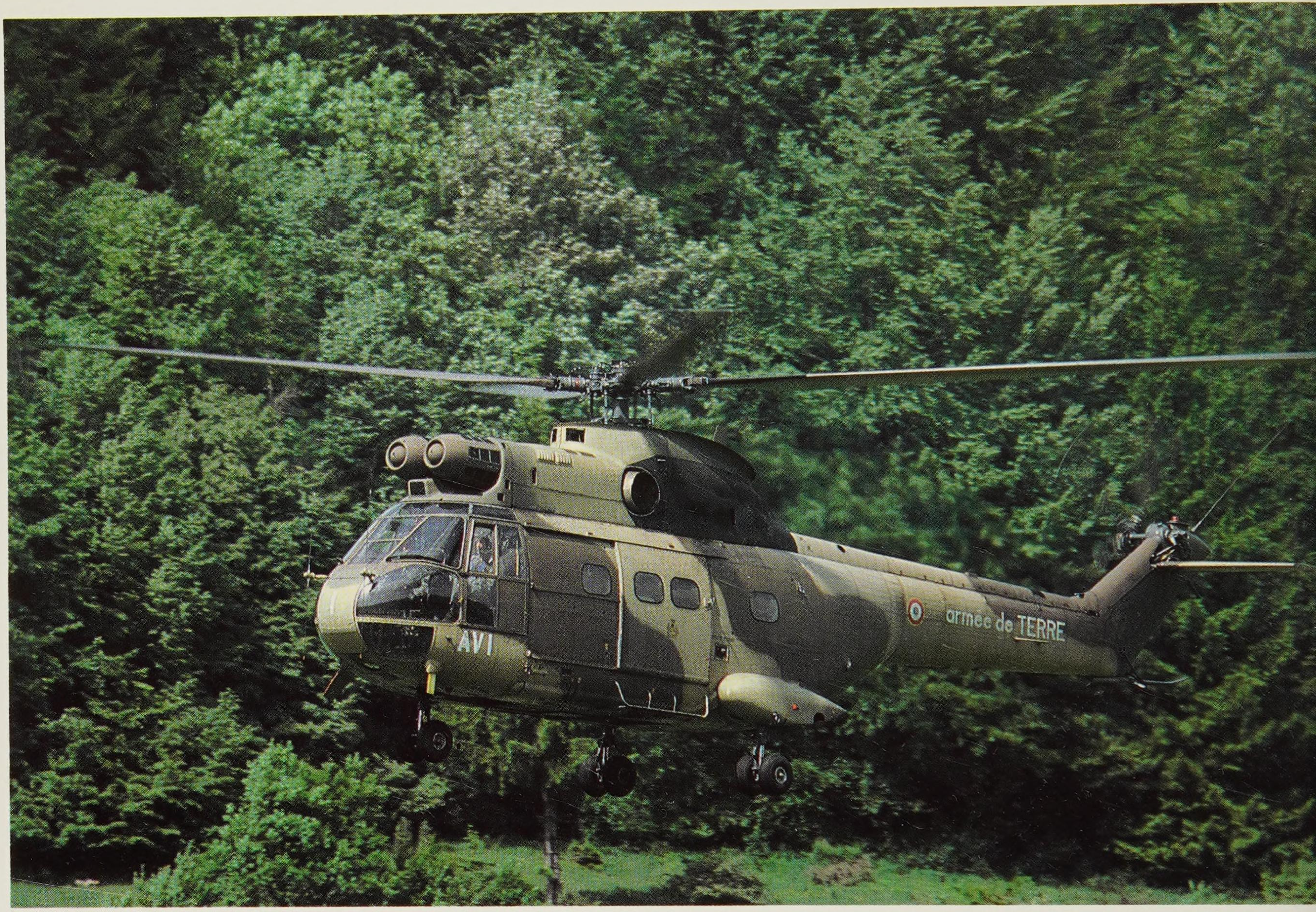
Right An Army Air Corps TOW armed Lynx AH.1, powered by two 900 shp Rolls-Royce Gem 41 turboshafts, sprints across a snow covered Salisbury Plain at nearly 180 mph

Overleaf A total of 212 MBB BO.105 PAH-1 anti-tank helicopters have been delivered to West Germany's Army aviation (*Heeresflieger*). This example, belonging to Anti-Tank Regiment (*Panzer-AbwehrRegiment*) 16 from Celle is seen in a field site during Exercise Lionheart, which took place in September 1984. The BO.105 PAH.1 is armed with six HOT missiles; note the roof-mounted stabilized APX397 sight. Parking close to the tree line provides maximum cover from the air

AVF

Battlefield backup

Two ALAT SA.330 Puma medium transport/ assault helicopters of the 2nd RHC based at Friedrechshofen seen over southern Germany during CENTAG's Exercise Albatross X held in June 1986



These pages One of the ALAT Pumas taking part in Exercise Albatross X in support of the Blue 'friendly' force, stands out against the lush greenery of southern Germany. On temporary detachment to the 2nd RHC, this example wearing 'tropical' camouflage and special extended air-inlet filters is more at home above the rugged terrain of Djibouti or Chad

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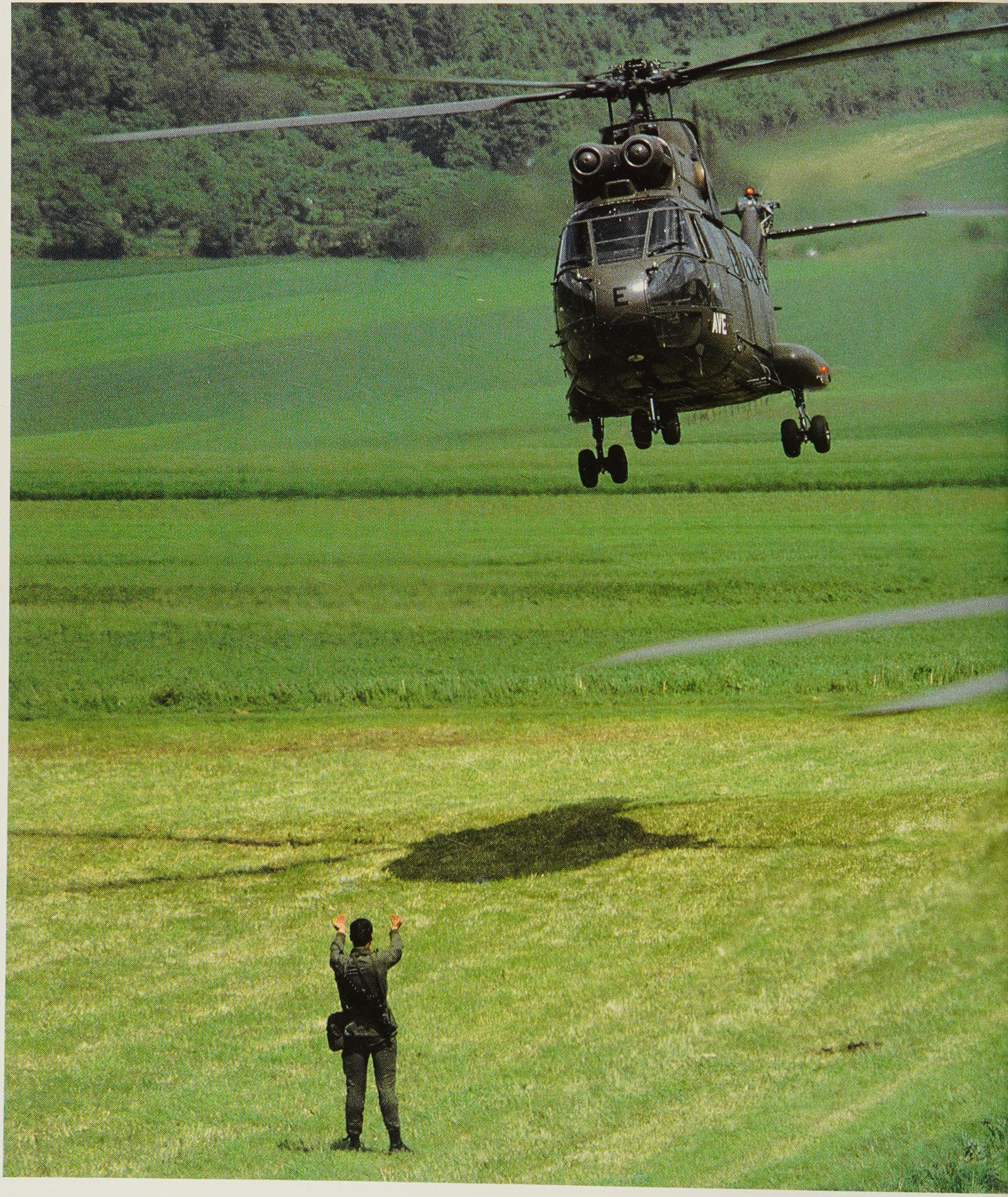
Overleaf Four ALAT Pumas of the 2nd RHC arrive at a Blue force pick-up zone on the outskirts of a village near Aalen in southern Germany during Exercise Albatross X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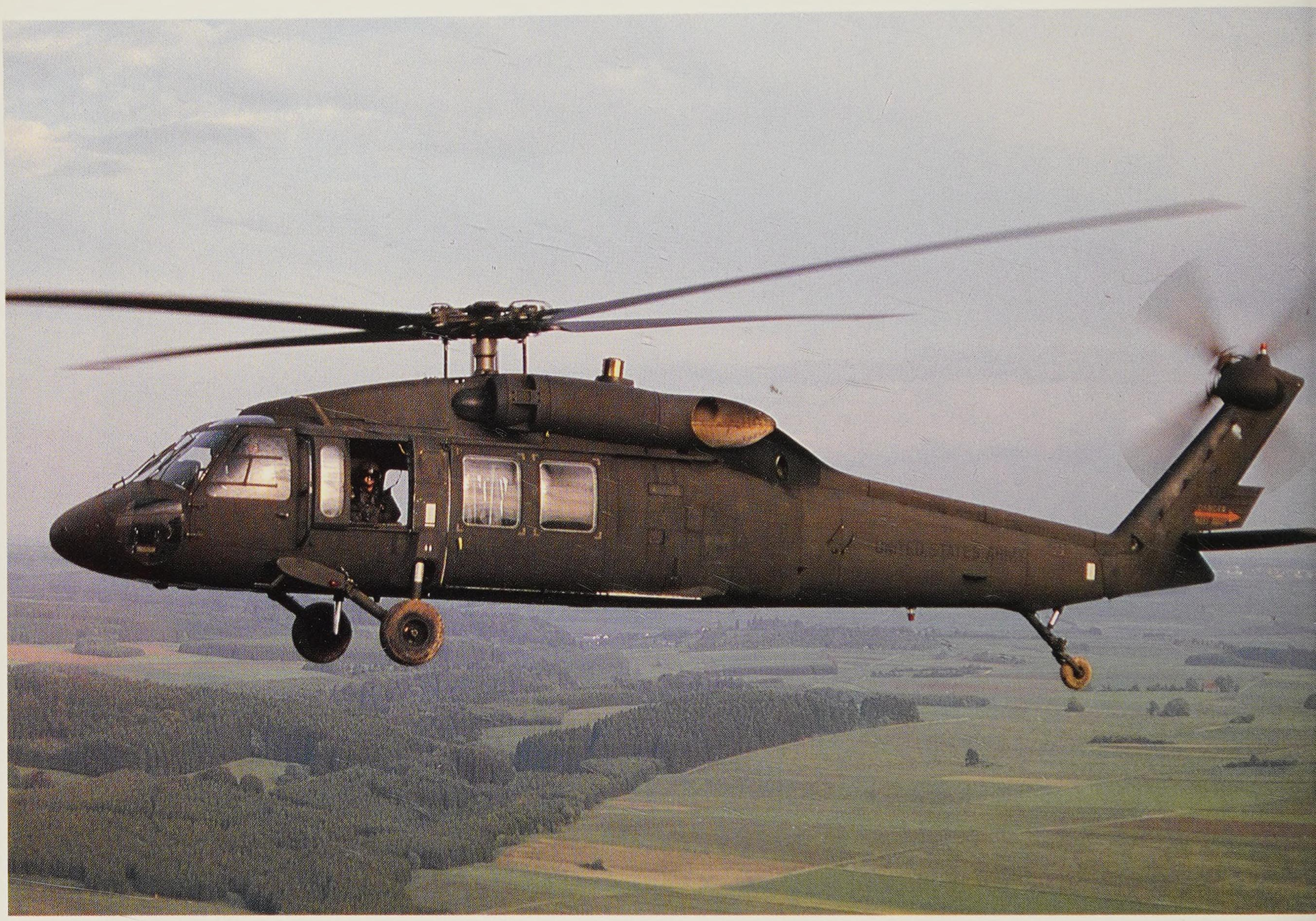
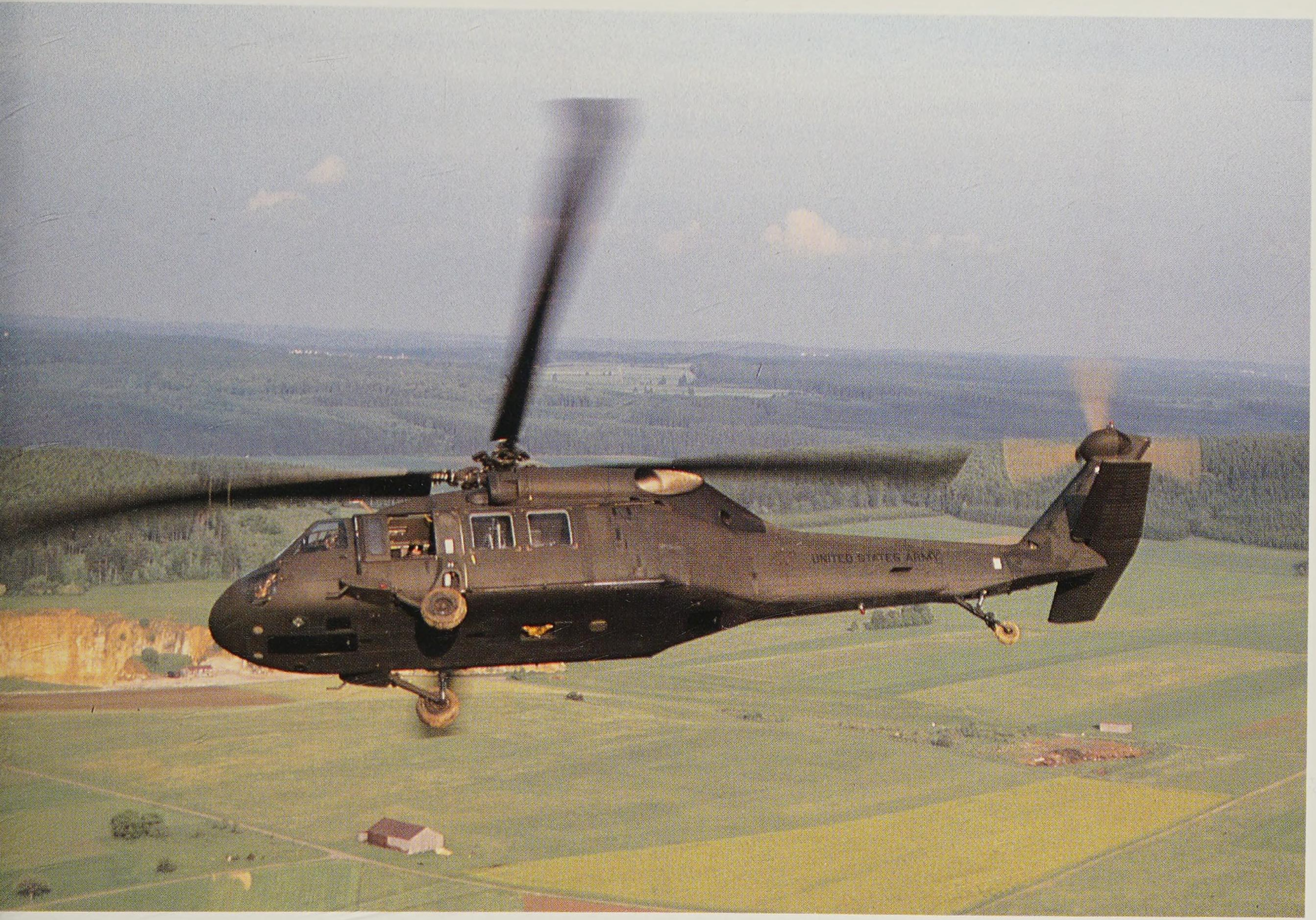


Preceding pages Federal German troops boarding French ALAT Pumas during the initial stages of Albatross X, the first joint exercise to be held between French, US and Federal Army Aviation units in southern Germany

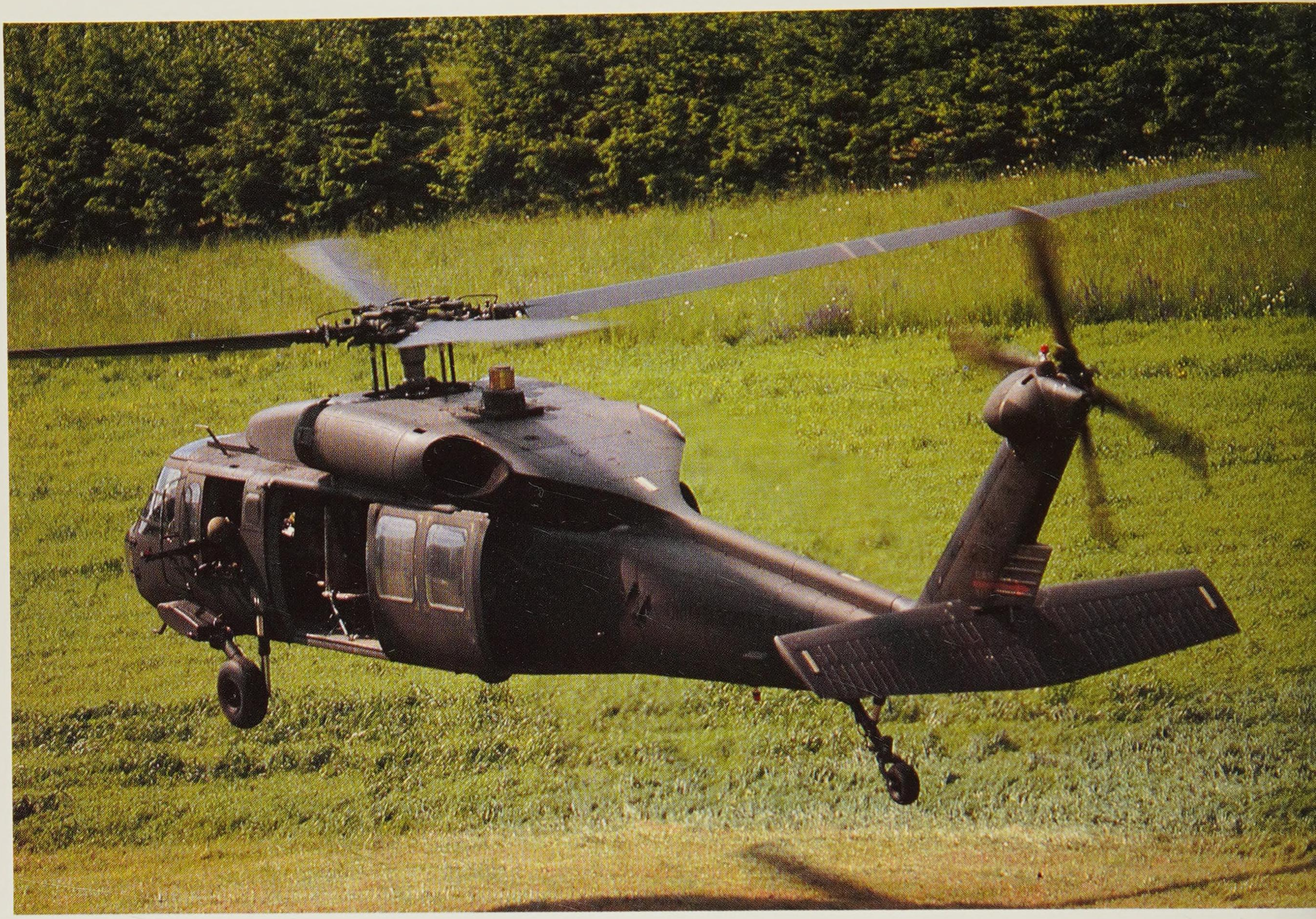
A Sikorsky UH-60A Black Hawk, the US Army's main assault helicopter — more than 1000 are currently being delivered — over southern Germany during Albatross X



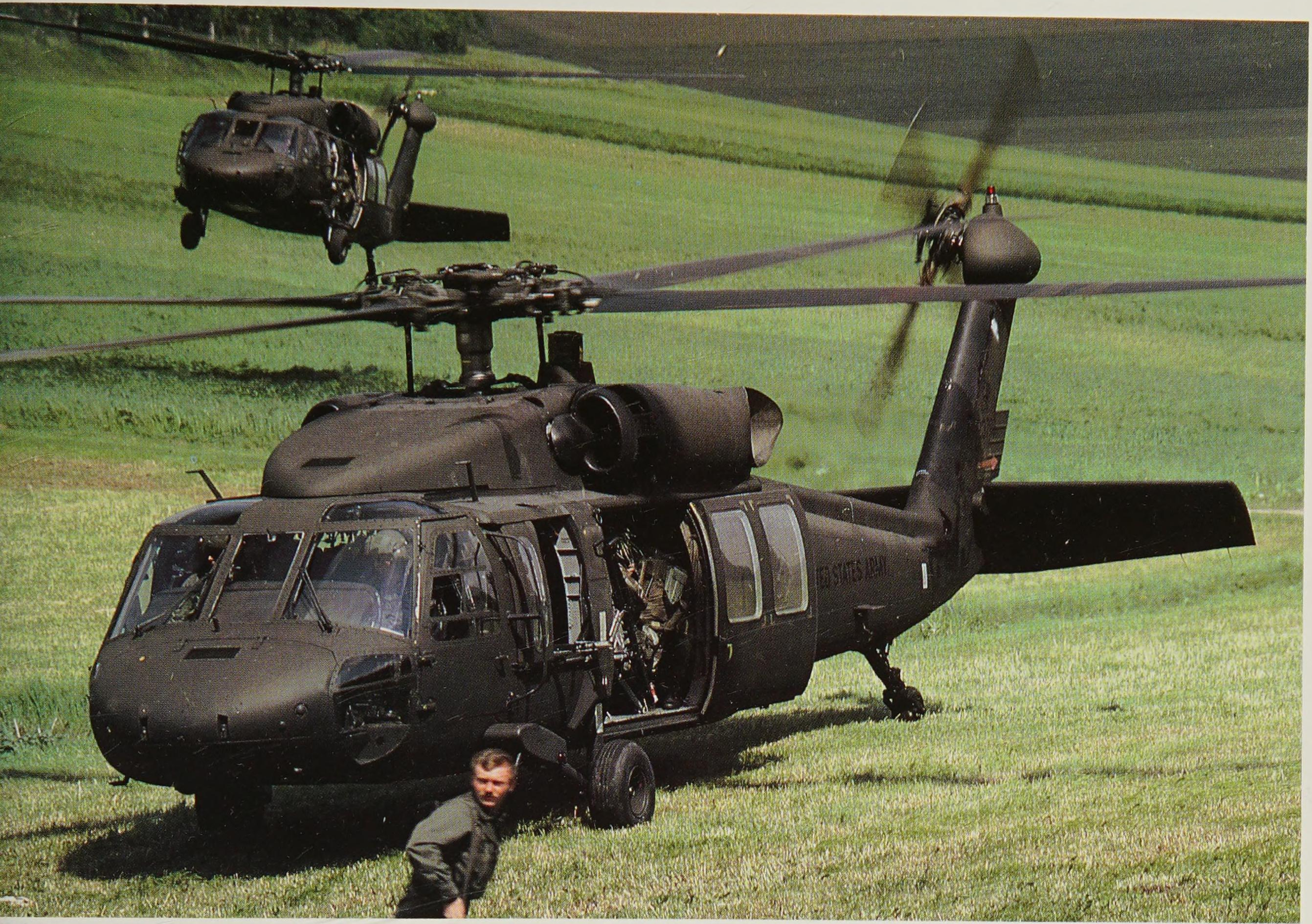
This example belongs to the 203rd Aviation Company, the 'War Eagles', based at Dolan Barracks in Schwaebisch Hall, a WW2 *Luftwaffe* base located 40 km east of Stuttgart. Note the recessed cargohook under the fuselage capable of carrying 8000 lb under-slung loads

Left These two menacing looking Black Hawks bristling with pintle-mounted M60 7.62 mm machine guns belong to the 203rd Avn Co, the 'War Eagles', are seen arriving at a DZ during Albatross X in southern Germany

Black Hawks, each carrying fifteen fully equipped troops and a crew of three, about to touch down at a DZ during Albatross X

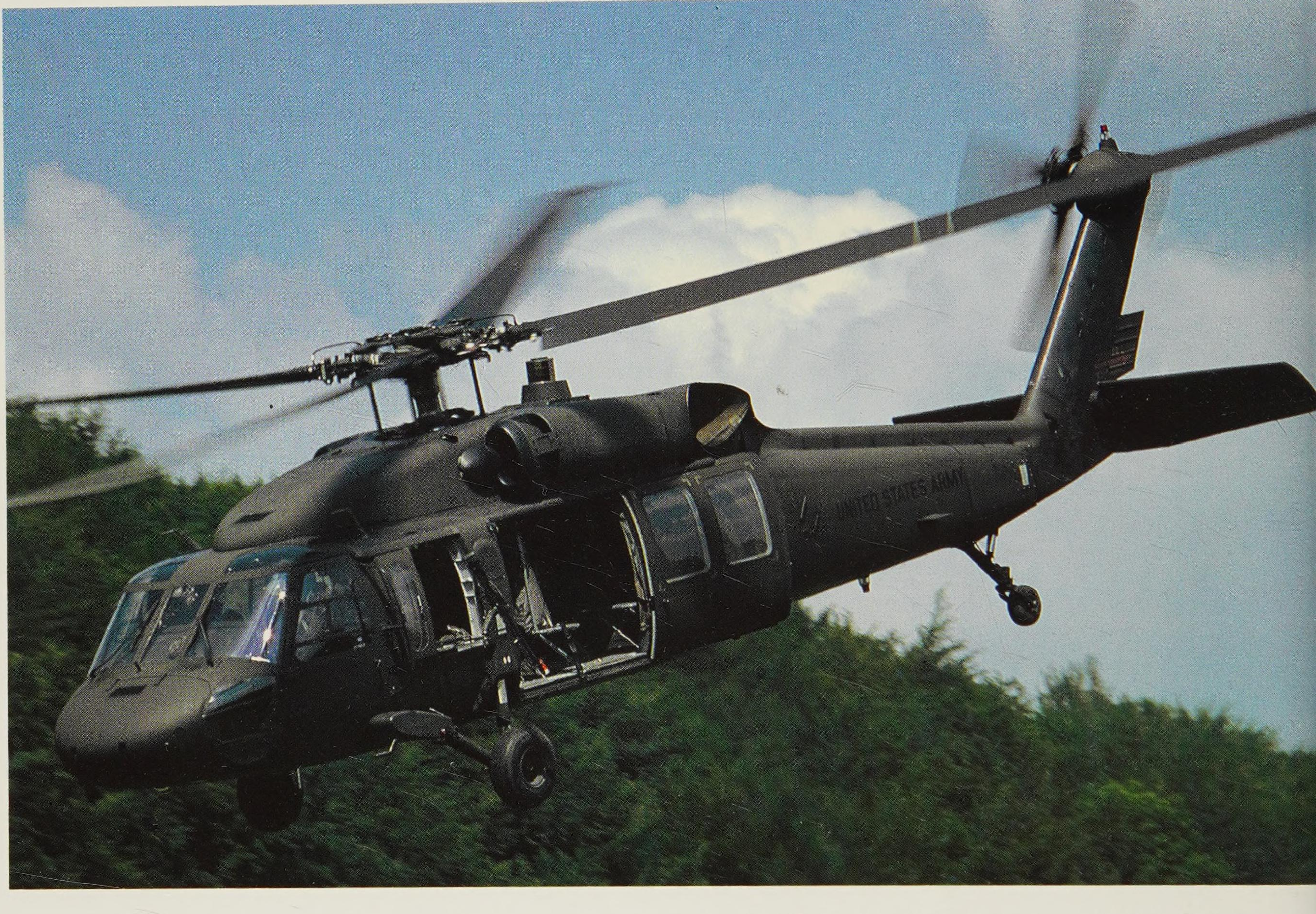


'Four feet, three feet'. A low profile UH-60A Black being 'talked' down by the crew chief hanging out from his position directly above the mainwheels. Note the tilted tail rotor and the ALQ-144 IRCM (infrared countermeasures) pulsed beacon jammer situated between the engine pods



The squat shape of a Black Hawk belonging to the 203rd Avn Co of the 11th Aviation Group, disembarking Blue force troops at an Albatross X DZ in southern Germany. The UH-60A was designed to withstand crashes and hits from armour-piercing shells of up to 23 mm calibre

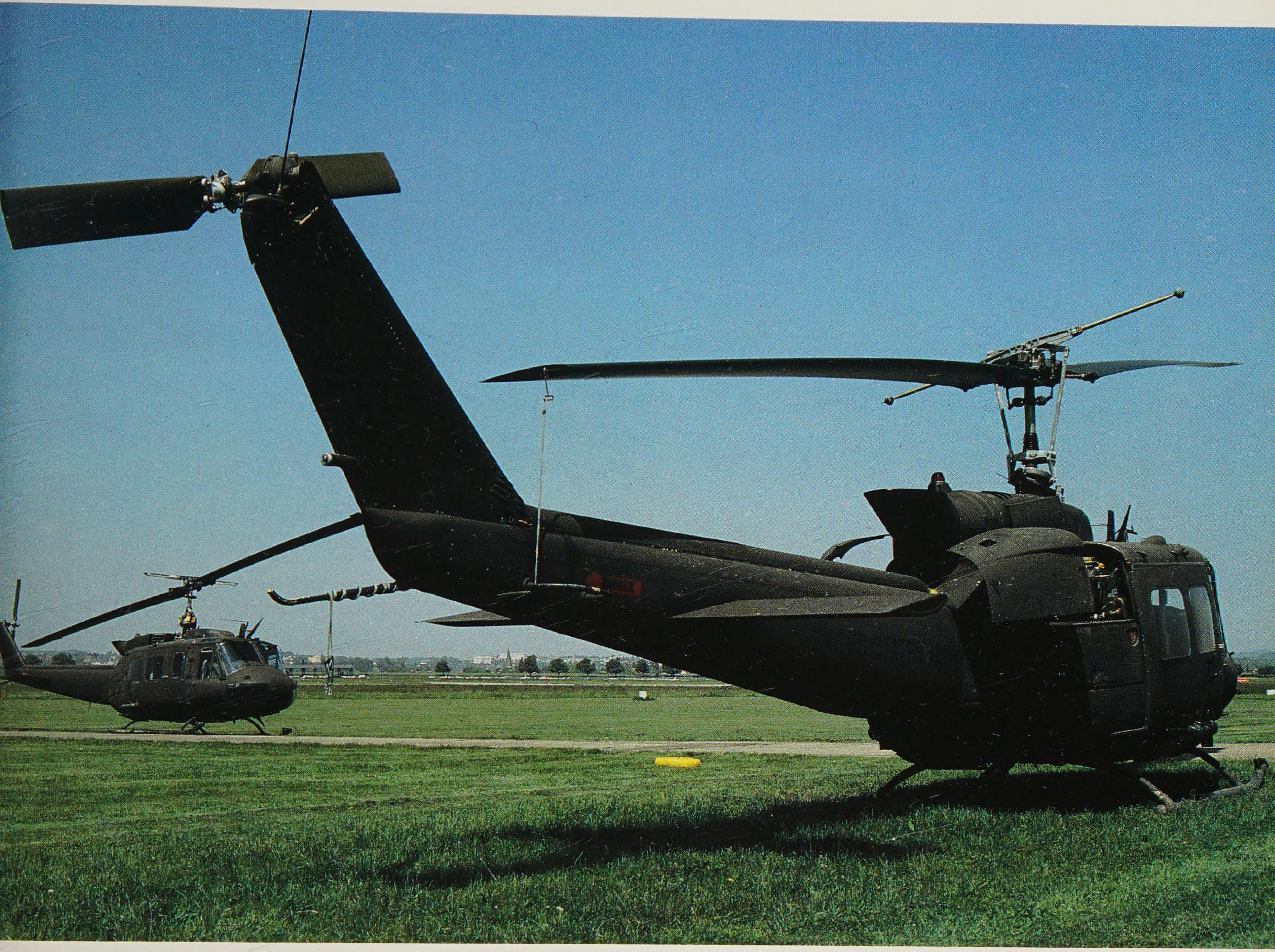
Overleaf US Troops break from the base of the treeline at an Albatross X PZ (pick-up zone) and head for the mixed force of US Army UH-60A Blackhawks (foreground) and ALAT Pumas (background) which have just touched down


UNITED STATES ARMY

Relieved of its load of troops, this UH-60A Black Hawk belonging to the 'War Eagles' climbs away from an Albatross X DZ

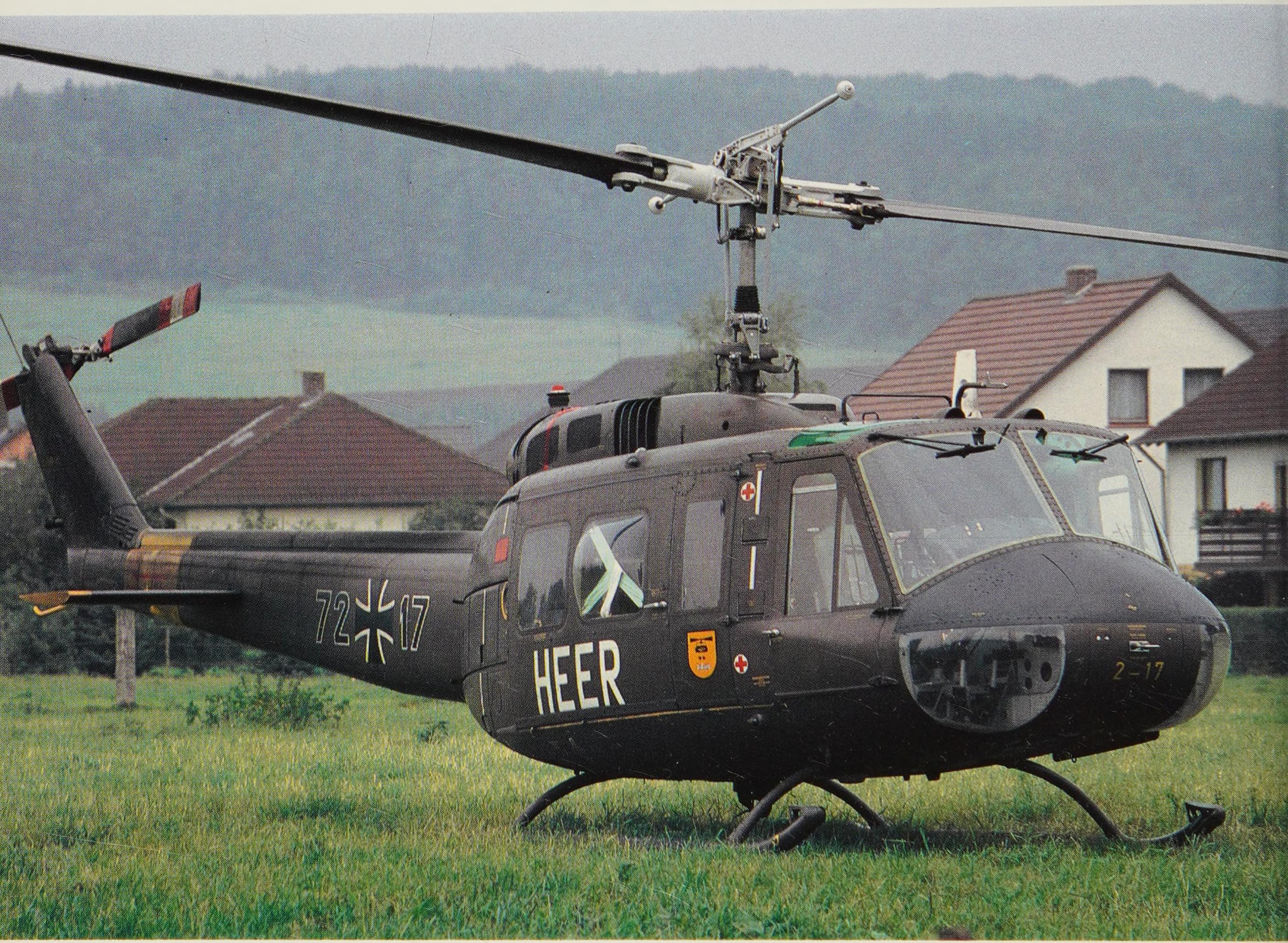
A 203rd Avn Co Black Hawk hugs the treeline as it climbs away from a DZ. The UH-60A, powered by two 1560 shp General Electric T700-GE-700 turboshafts, has a maximum sea level speed of 184 mph and a range of 373 miles

Overleaf A line-up of three Bell UH-1H Iroquois, known as the 'Huey' in Vietnam, of the US Army's 503rd Aviation Battalion based at Hanau, West Germany, seen here at Hildesheim during Exercise Lionheart In 1984

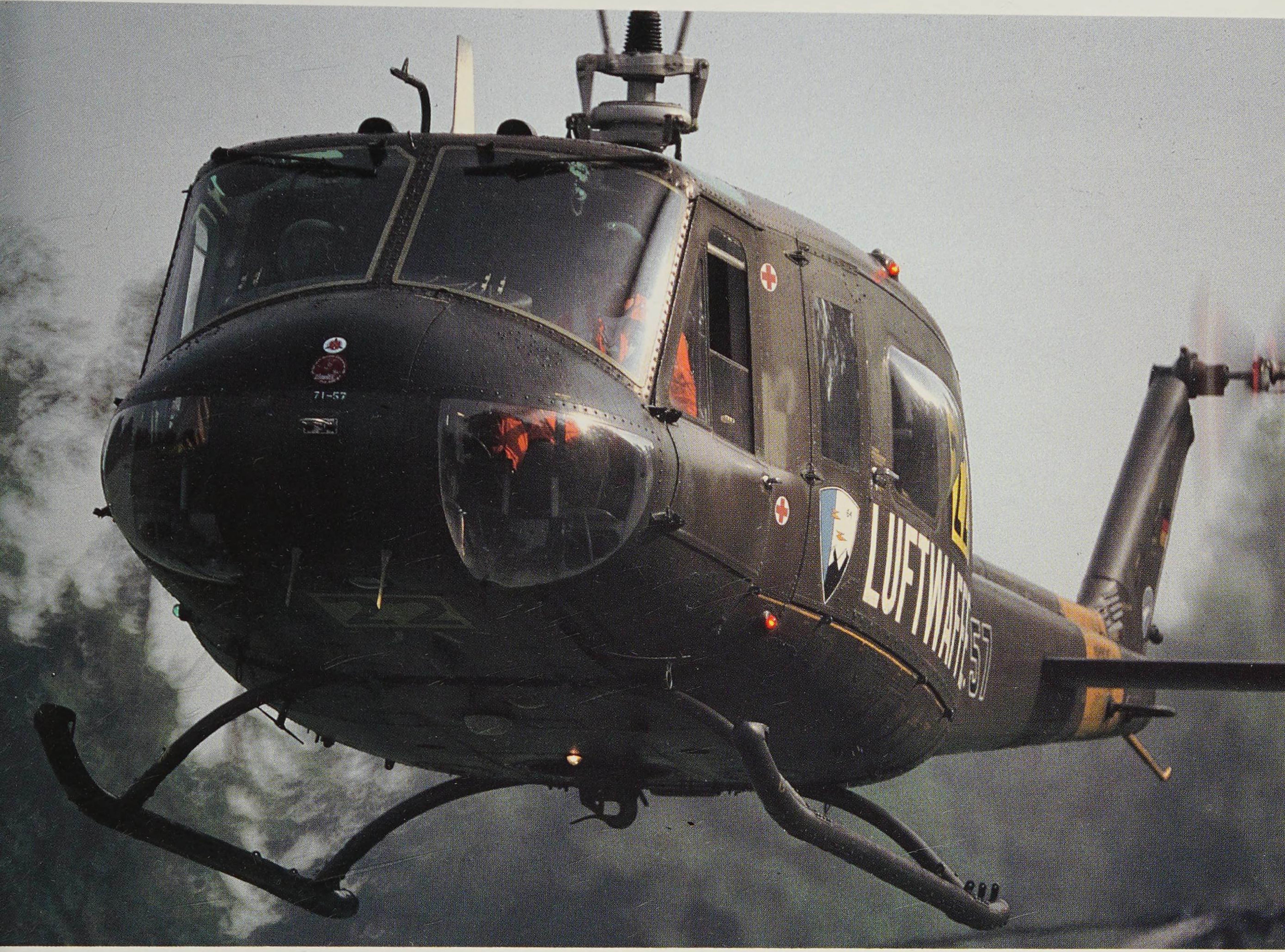


Left This UH-1H 'Huey' hugging the treeline belongs to the 25th Aviation Company, the 'Wings of the Jayhawk' from Nelligen near Stuttgart. It carried a pintle-mounted 7.62 mm GPMG for the duration of Albatross X, held during June 1986

More than 7000 Hueys were delivered to the US Army, two of which, UH-1Hs belonging to the 203rd Avn Co, are seen at their base at Stuttgart in July 1986. The H model Huey, powered by a single 1400 shp Lycoming T53-L-13 turboshaft, is capable of carrying up to 14 troops or 6 litters and a medic



A *Heeresflieger* UH-1D Iroquois belonging to the LHFTR-10 (LiechtesHFlTransportRegiment-10) based at Fassberg parked in a village near Hildesheim during Exercise Lionheart in September 1984

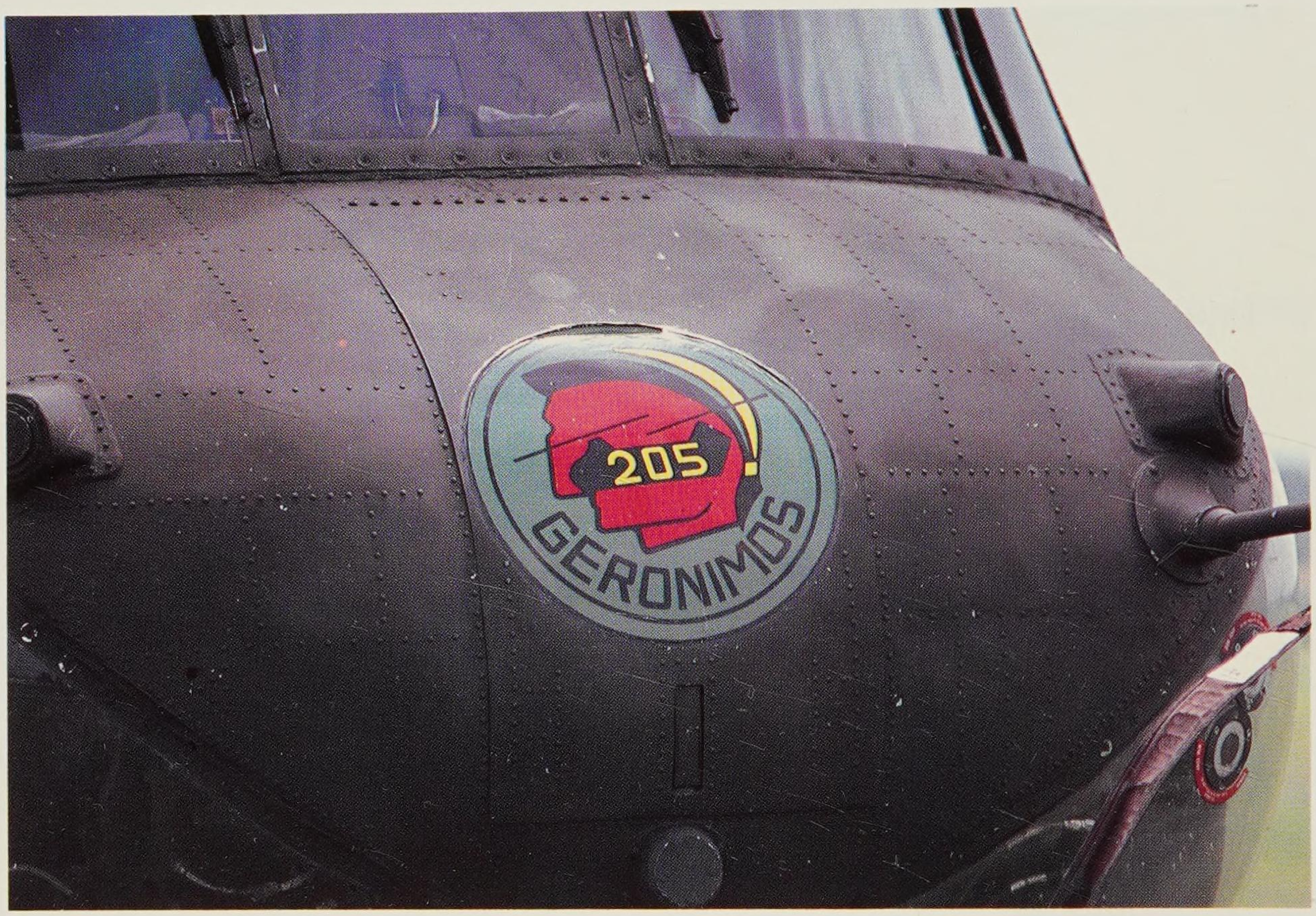


One of 325 UH-1D Iroquois built by Dornier for the West German forces. This example belongs to HTG-64, the *Luftwaffe's* helicopter wing at Ahlhorn and was at Castle Ashby in Bedfordshire for the World Helicopter Championships in June 1986

Overleaf The *Aviazione Leggera del l'Esercito Italiano* (ALE) has 20 Agusta-Bell 212s and 26 Merdional-Vertol CH-47C Chinooks tasked with supporting the Italian Army. These immaculate examples belong to the ALE's first wing, 1 RALE 'Antares', and attended 'HELI-MEET 86' at Middle Wallop. **Insert** The 'Antares' badge on the side of a CH-47C surrounded by stencilled instructions in *Inglese* and *Italiano*

E.I.827
ESERCITO
ESER
C275
SCORREVOLE

C273
827
C273

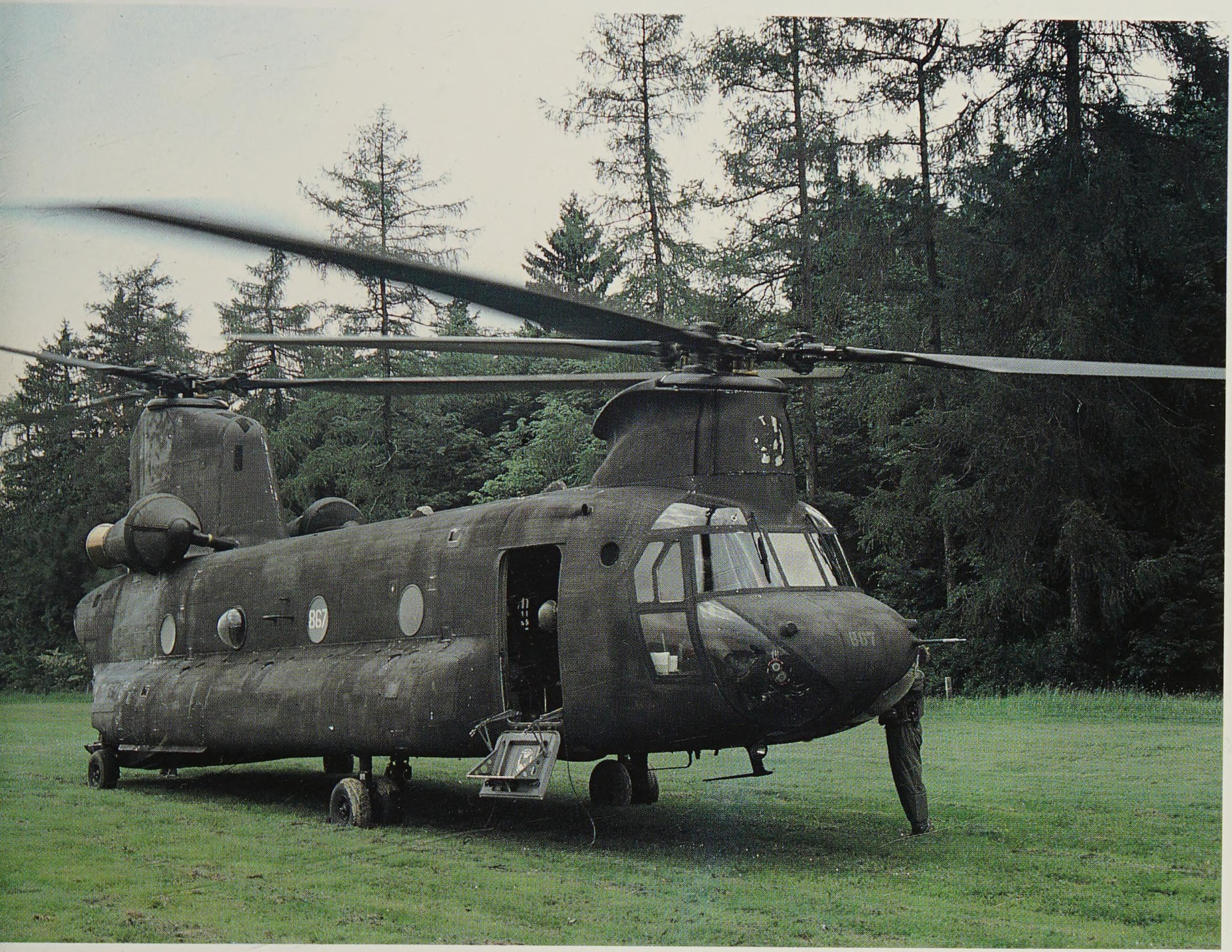


Above A rare patch of colour on the nose of a US Army Boeing-Vertol CH-47C Chinook belonging to the 205th Aviation Company, the 'Geronimos', based in West Germany

Right The CH-47 Chinook has been the US Army's standard medium transport/assault helicopter for nearly a quarter of a century. These two well-worn CH-47Cs at a PZ during Albatross X in June 1986 belong to the 180th Aviation Company — 'Big Windy' — located at Dolan Barracks in Schwaebisch Hall near Stuttgart. The remains of the unit badge can be seen above the cockpit

Overleaf The crews of two 'Big Windy' Chinooks and an armed Huey take advantage of a lull during Albatross X to relax in a German field

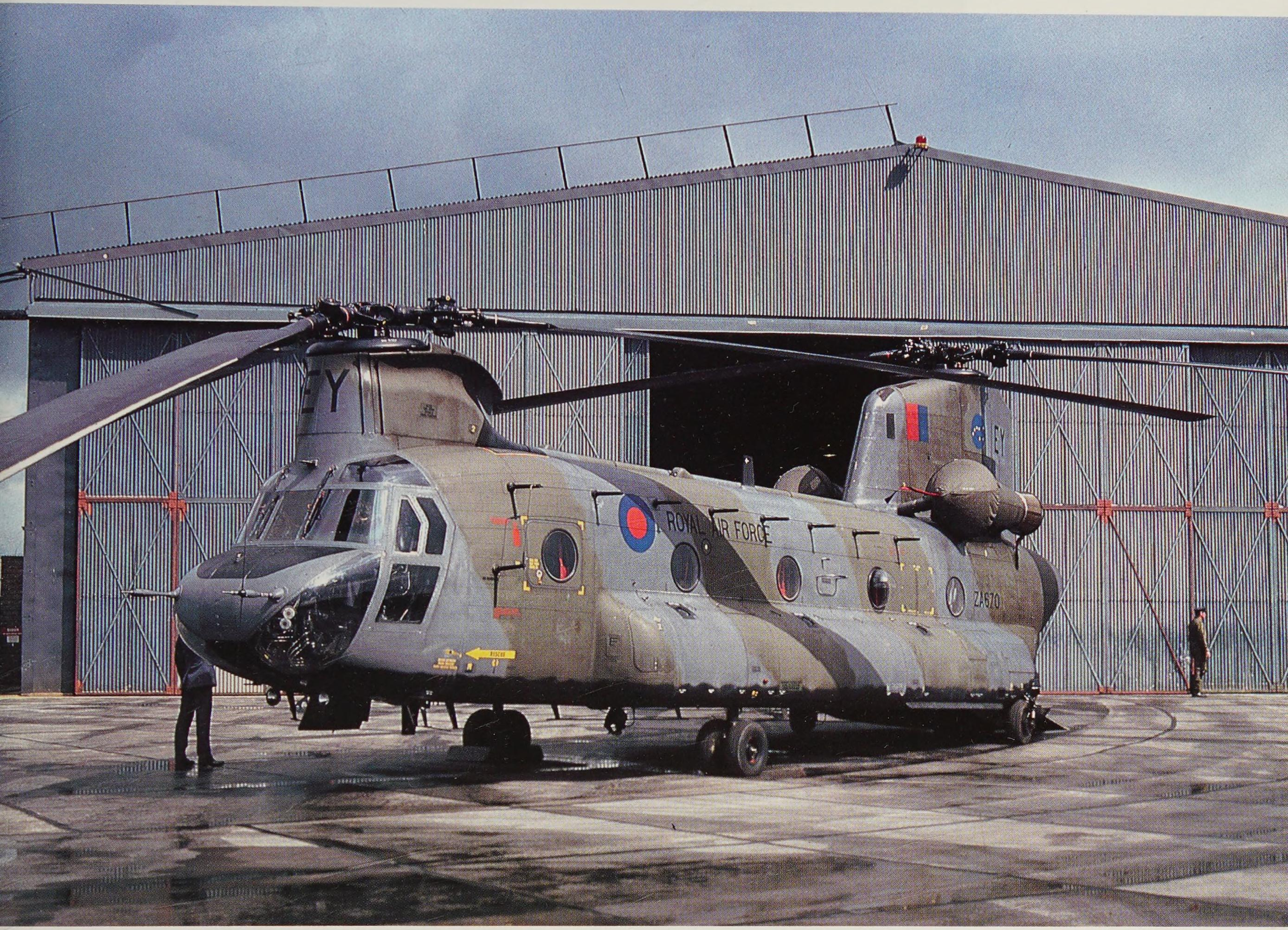
887



The Chinook heavylifter is powered by two 3750 shp Lycoming T55-L-11A turboshafts and can lift 44 fully armed troops. In Vietnam a CH-47A managed to take off with 147 refugees and their assorted possessions, a fantastic performance by any standard

Above A 'Big Windy' Chinook waits with rotors turning at a PZ near Mindleheim to pick up a unit of German paras during Albatross X

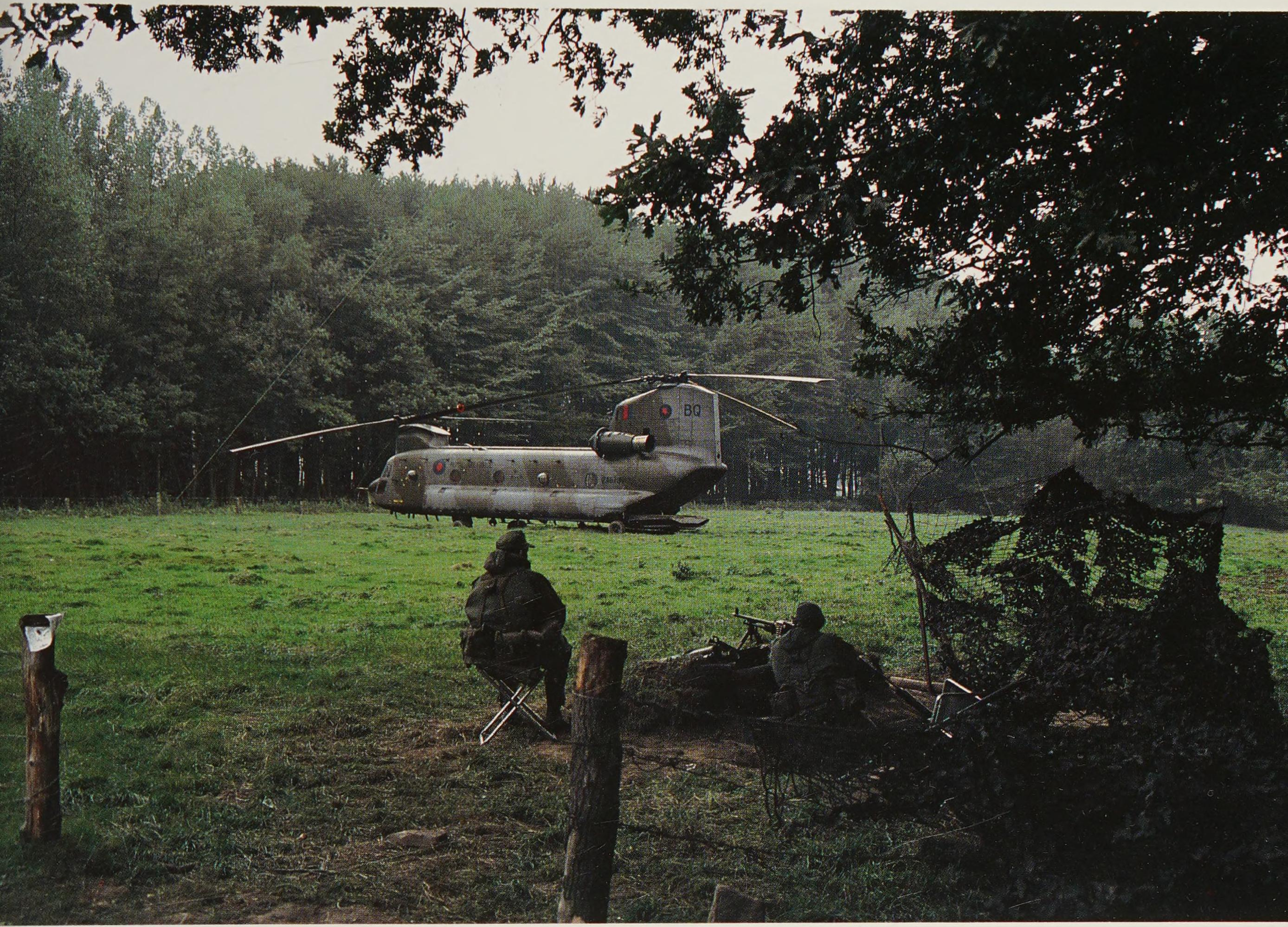
These pages A German paratrooper of *Fallschirmjagerbattalion* 253 jumps from a 'Big Windy' CH-47C



Left Troops of *Fallschirmjagerbattalion* 253 jumping from the rear ramp door of a US Army CH-47 Chinook belonging to the 180th Avn Co over southern Germany. The Federal German troops were part of the Orange 'enemy' Force taking part in the tenth exercise in the CENTAG Albatross series held between 2 and 5 June 1986

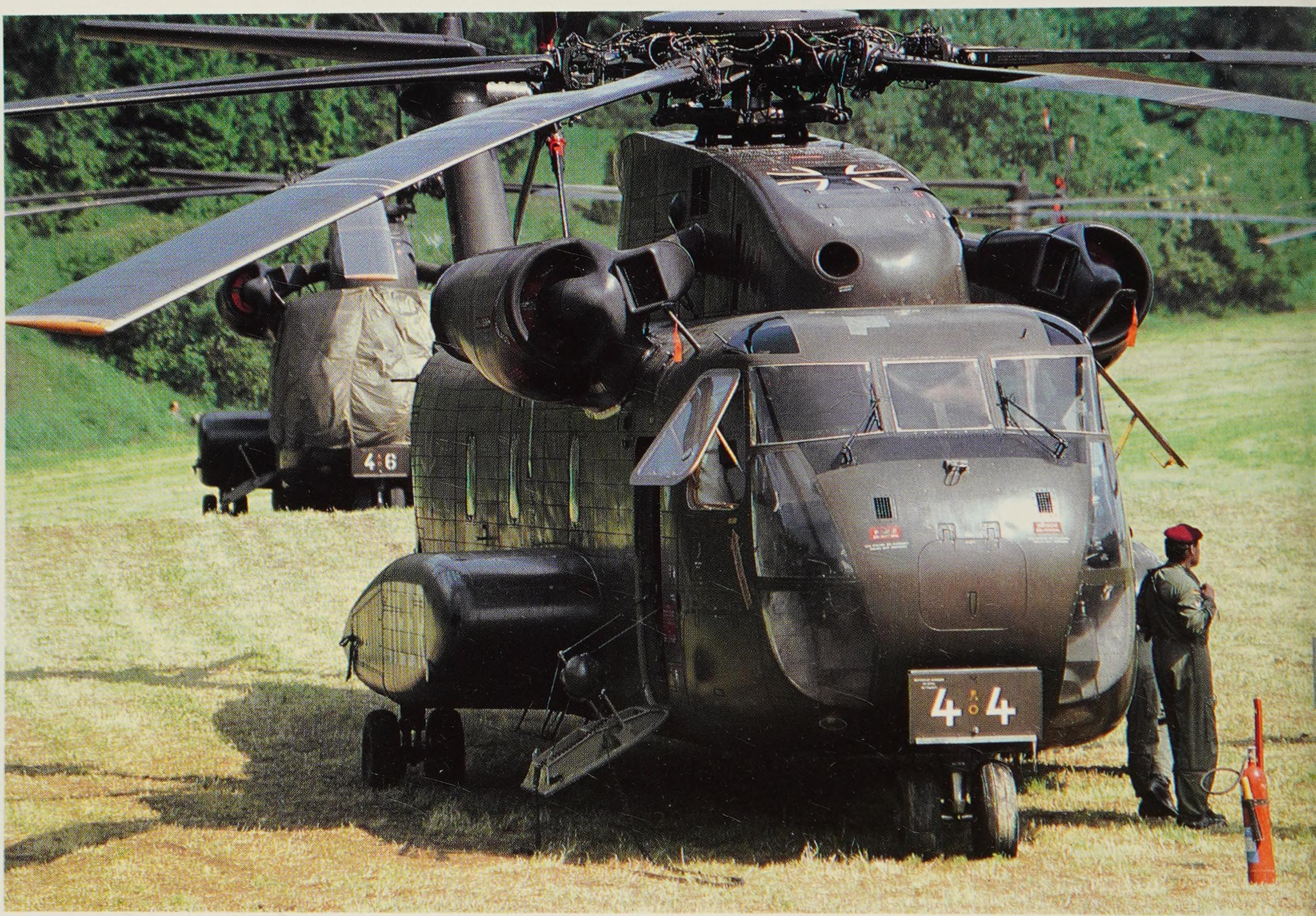
A pristine RAF Chinook HC.1 belonging to No 7 Sqn seen at RAF Odiham in Hampshire — 'Home of the Battlefield Helicopter'

BB
ROYAL AIR FO

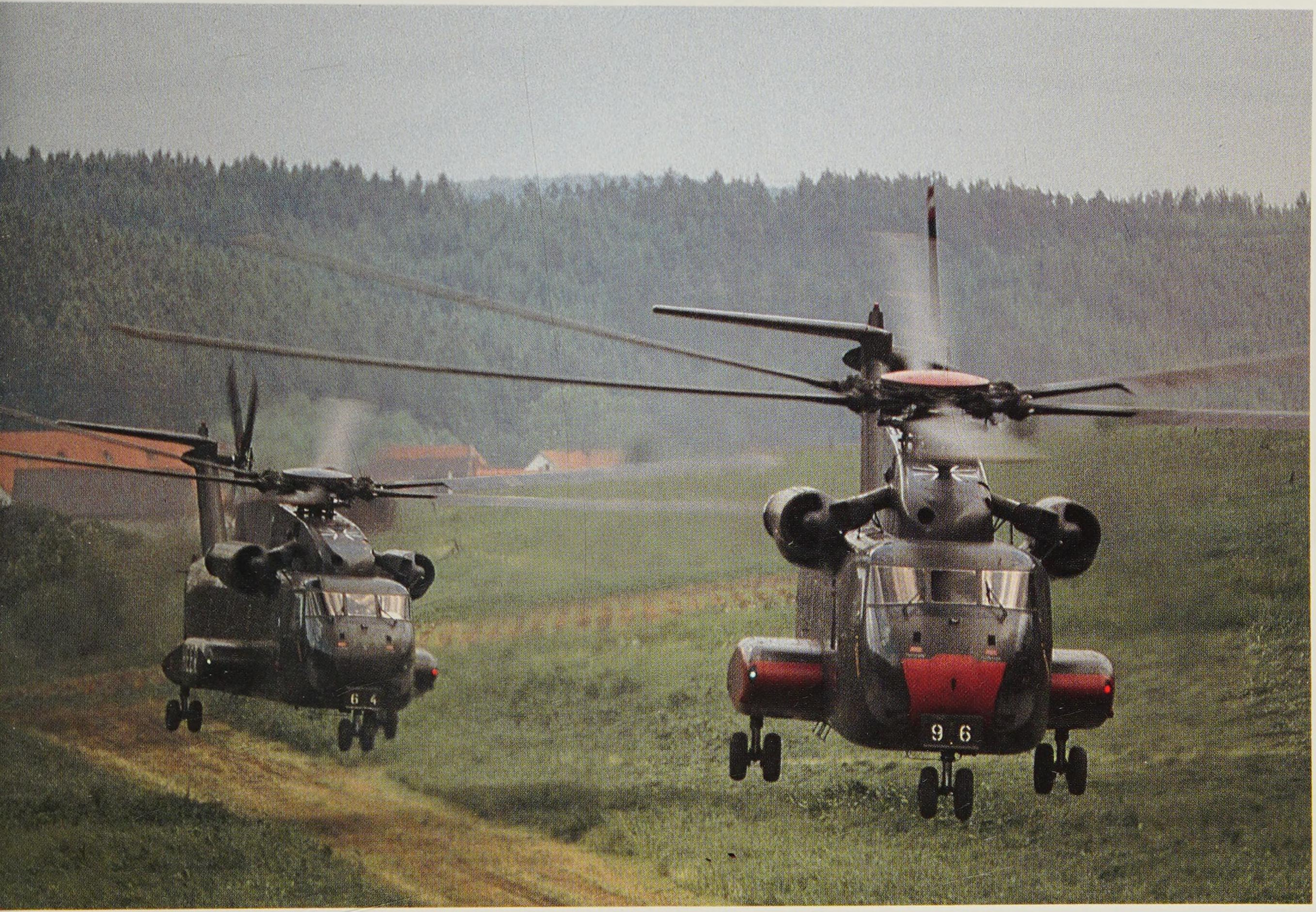


Left An RAF Regiment Scimitar CRV(T) armed with a 30 mm Rarden gun is the 17,600 lb slung load for a No 18 Sqn Chinook HC.1 over RAF Laarbruch in West Germany. One of the squadron's Chinooks, the sole survivor of four aboard the *Atlantic Conveyor* when it was sunk in the South Atlantic by an Argentine Exocet, carried more than 80 fully armed troops during the Falklands campaign

Armed members of the RAF Regiment guard a No 18 Sqn Chinook HC.1 deployed to a farm yard field site at Spenge near Minden during Exercise Lionheart in September 1984

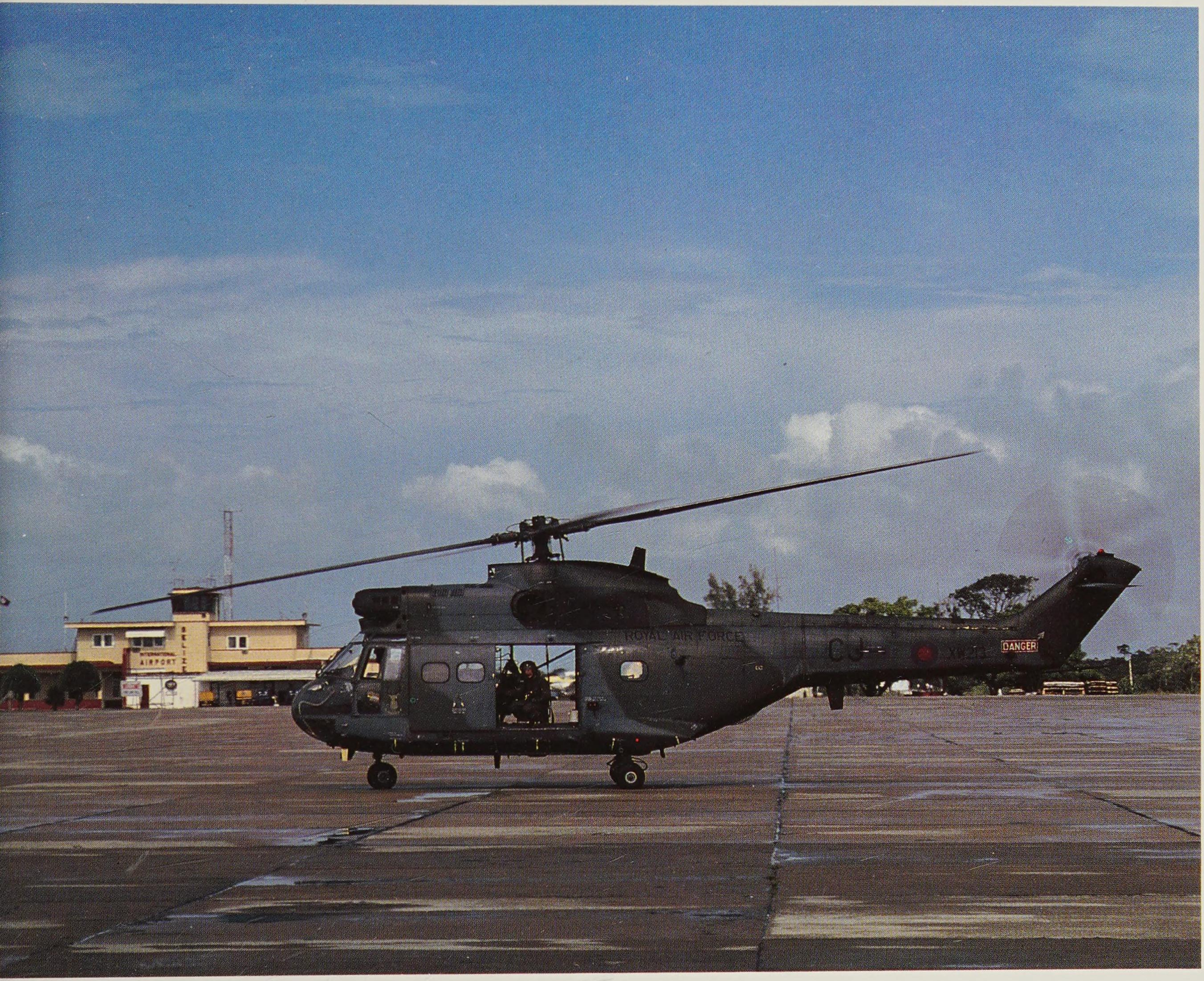


A detachment of *Heeresflieger* Sikorsky CH-53G heavy assault transports belonging to 2/*Fliegeude Abfeilung* 251 at Laupheim in a field site near Aalen in support of the Orange 'enemy' force during exercise Albatross X



Two of the 110 VFW-built Federal German Army CH-53Gs get airborne from a restricted field site during Albatross X. The CH-53's two 3925 shp General Electric T64-7 turboshafts, driving a 72-ft 3-in diameter six-blade rotor, give the big Sikorsky a top speed of almost 200 mph

CJ



Left At dawn on the 22 September 1985, Puma HC.1 'Charlie Juliett' of 1563 Flight prepares to leave Airport Camp at Belize for Mexico City airport loaded with relief supplies and extra fuel tanks just two days after a massive earthquake had devastated parts of the city. Two fully loaded RAF Pumas sporting non-standard Union Jacks completed the daunting 715 mile flight across Mexico, where RAF flights are normally prohibited, in 8 hr 45 min

1563 Flight's four Puma HC.1s based at Belize International Airport support the British Army units which help to counter threats to the country's independence made by neighbouring Guatemala

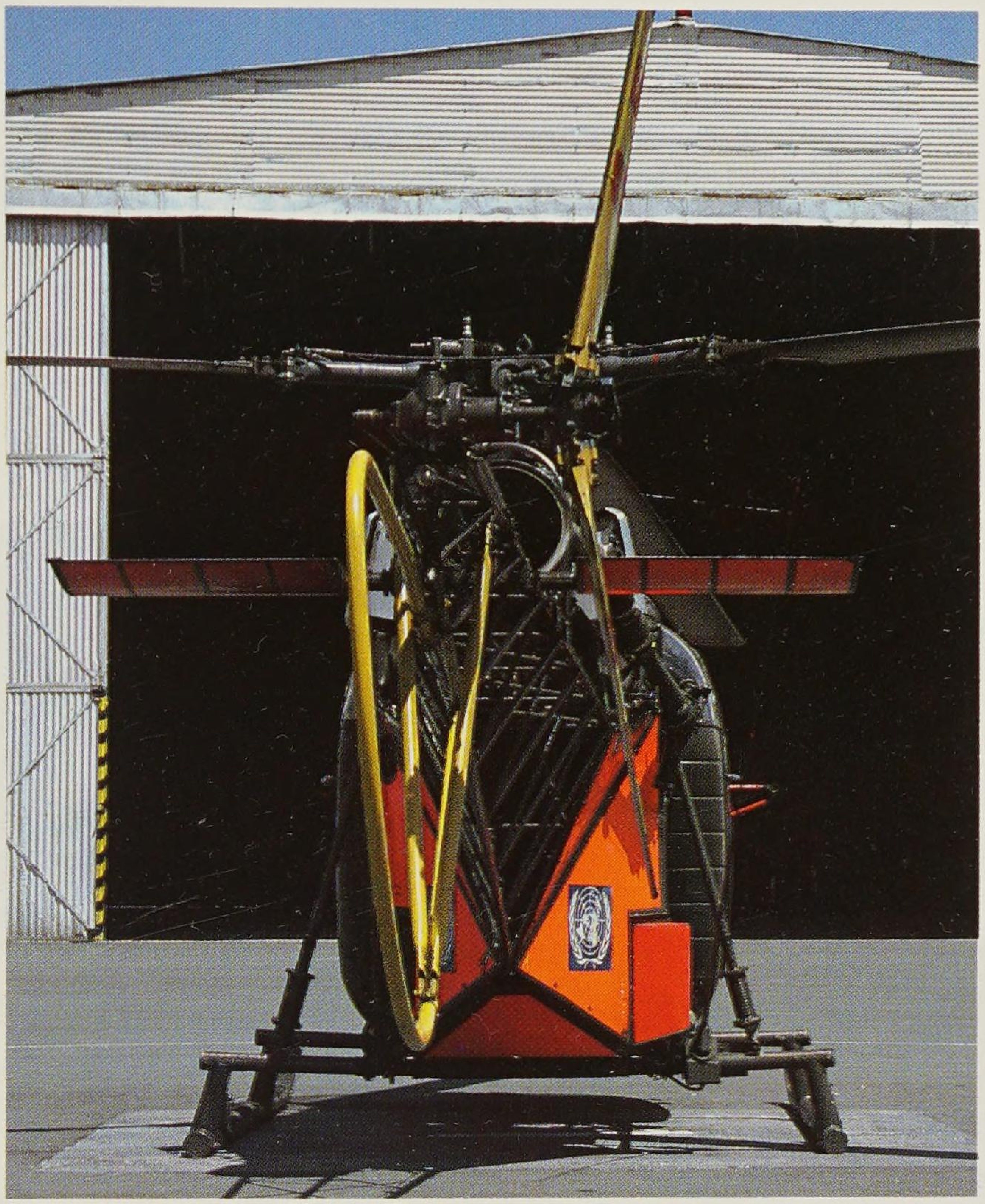
Left An RAF Puma HC.1 medium lift transport of 1963 Flight in Belize seen over the dense jungle that covers much of the country which gives little opportunity for a successful forced landing in the event of an engine failure

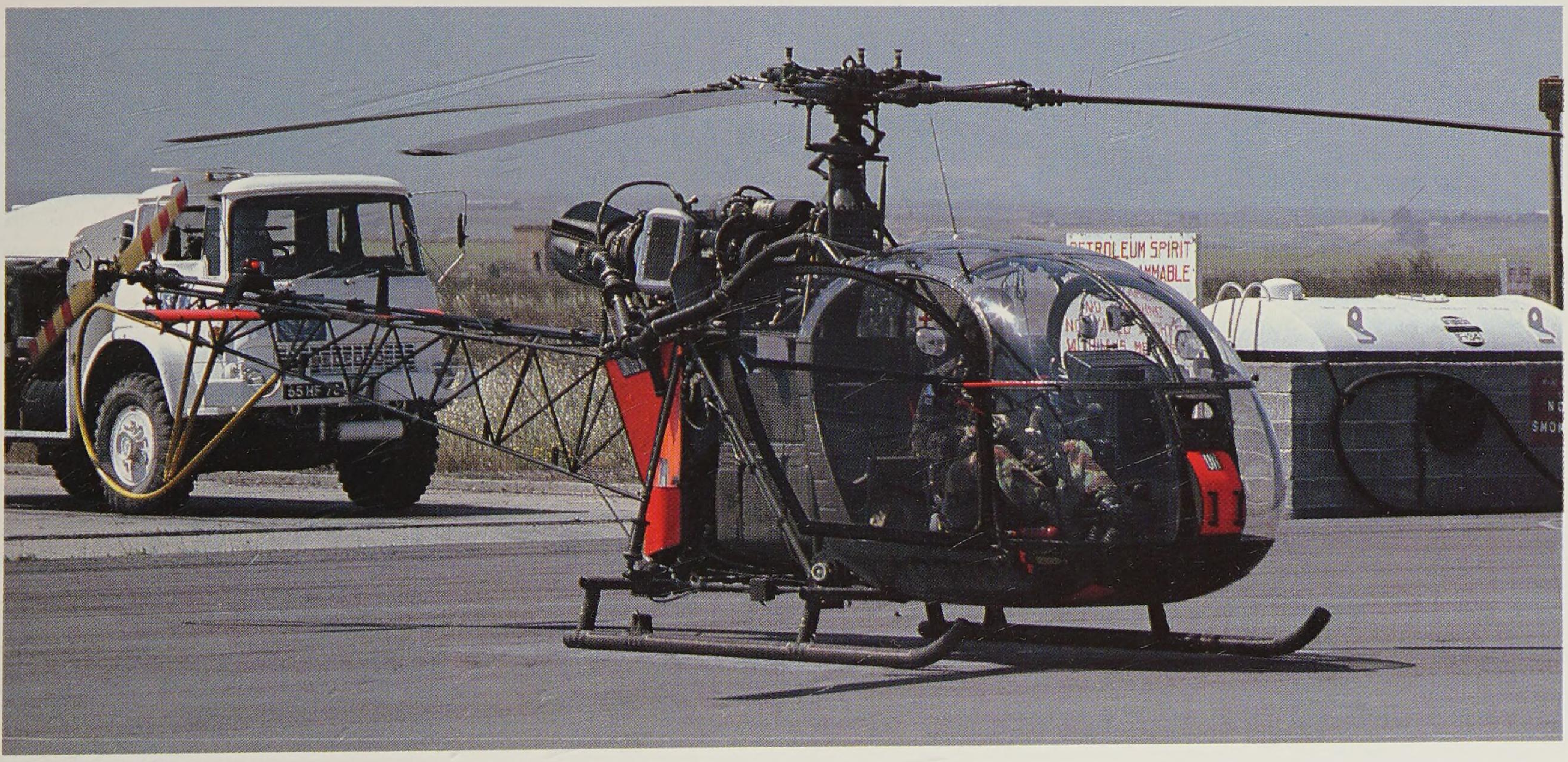
A pair of 1563 Flight's Pumas flying over a Mayan Temple in Belize, the only break in the vast expanse of jungle that stretches to the horizon. The country's hot and humid climate impairs the Pumas performance, and the heavy tropical rainstorms frequently encountered in the area can reduce visibility to nil in seconds as well as damaging rotor blade leading edges

943
UNITED NATIO
NO SMOKING
NO NAKED LIGHTS
WITHIN 15 METRES

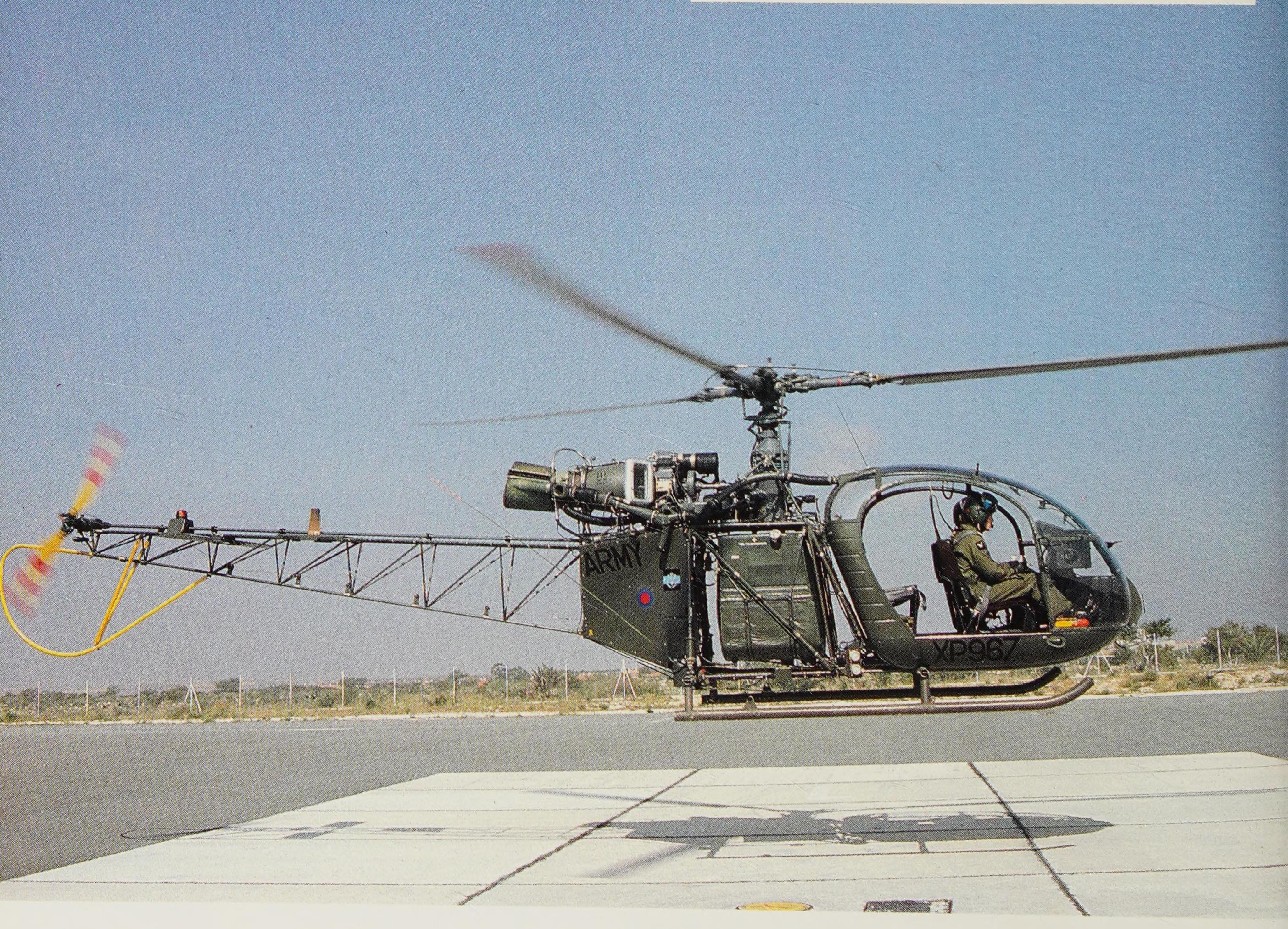
Observers/ general duties

Left The Commanding Officer of UNFICYP Flight AAC makes a preflight inspection of one of the unit's three Aérospatiale Alouette AH.2s at Nicosia Old International Airport, Cyprus, in April 1986
Below An Alouette AH.2 of UNFICYP Flight AAC runs-down at Nicosia Airport. The Unit is tasked with providing support to UN Forces deployed along the 135 mile zone between the Turkish and Greek Cypriot Forces. The veteran Alouettes fly buffer zone recce sorties at 60-70 mph, 300 ft AGL checking for alleged violations of the 1974 UN negotiated ceasefire
Right A UNFICYP Flight's Alouette AH.2 in front of its bullet ridden hangar at Nicosia Airport, which has been closed to all commercial traffic since the Turkish Invasion of 1974



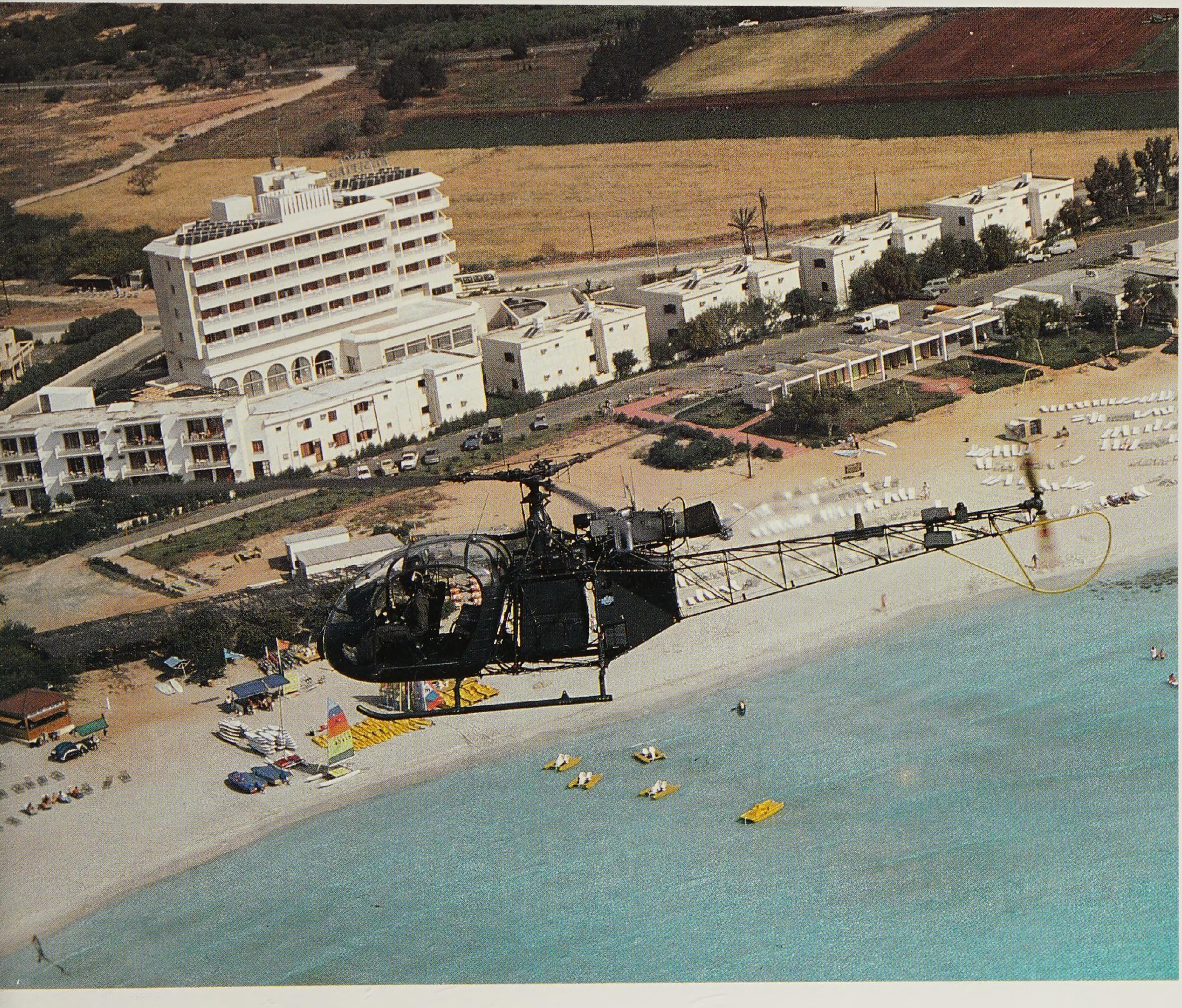


Below All of the Army Air Corp's surviving Alouette AH.2s serve in Cyprus with the UNFICYP Flight and 16 Flight AAC, based in the Sovereign Base Area (SBA) of Dhekelia. One of 16 Flight's four immaculate 21-year-old Alouettes, which are due to be replaced by the middle of 1987, is seen taking off from its home base on a routine training flight



Inset, left Sgt Allan keeps his 16 Flight Alouette straight and level over the road between Ohekelia and the British intelligence-gathering complex at Ayios Nikolaos. Turkish and Greek Cypriot troops are dug-in either side of this road and both sides have been known to loose off the occasional round at any helicopter that strays off the centreline

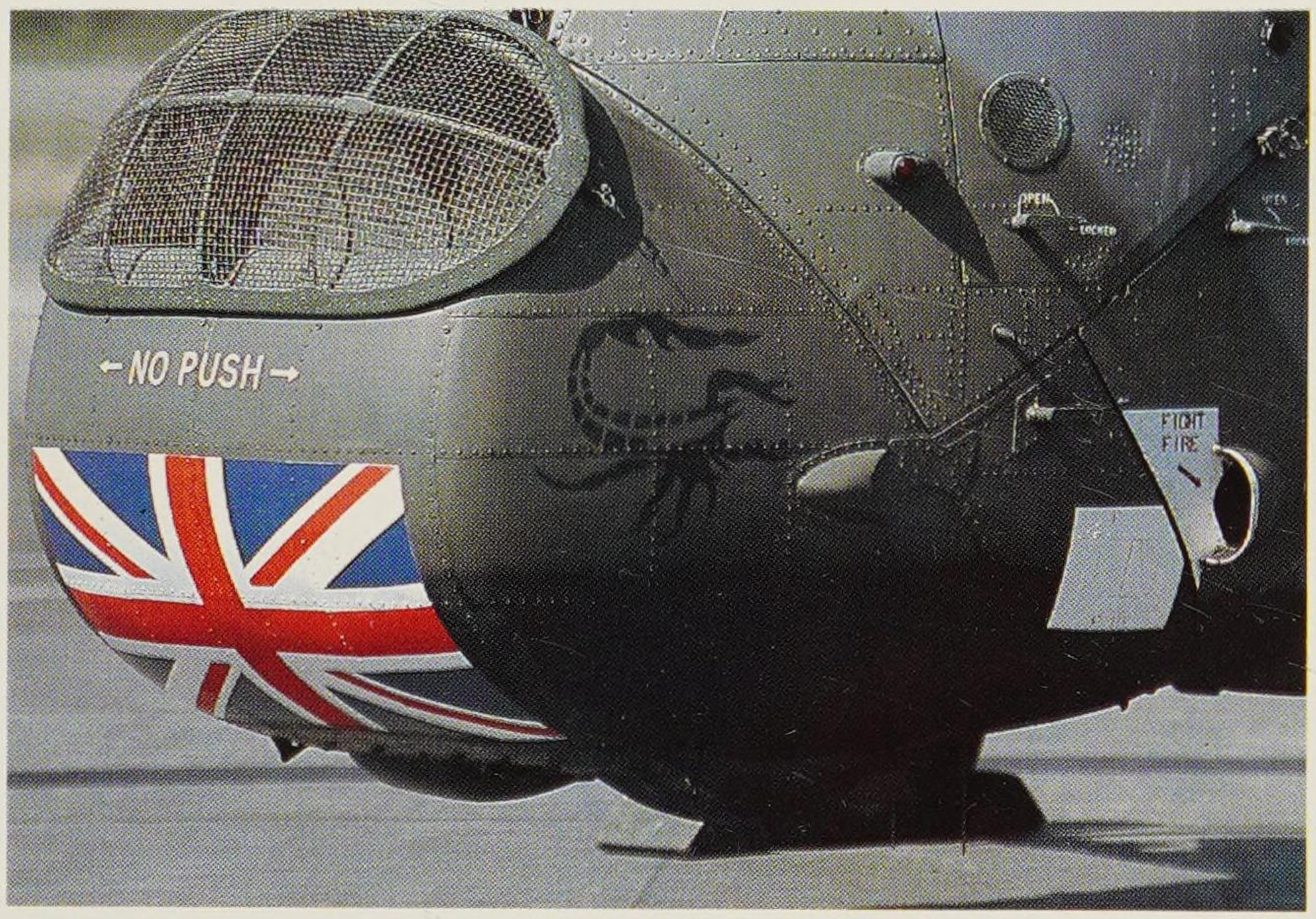
16 Flight's roles include British Army support, communications, medivacs, SBA border recces and cooperation with civil police and customs authorities. They have been successfully used to shadow boats attempting to smuggle drugs into Cyprus from Lebanon. One of 16 Flight's Alouettes is seen here over the fashionable tourist resort of Ayia Napa on the south coast of island

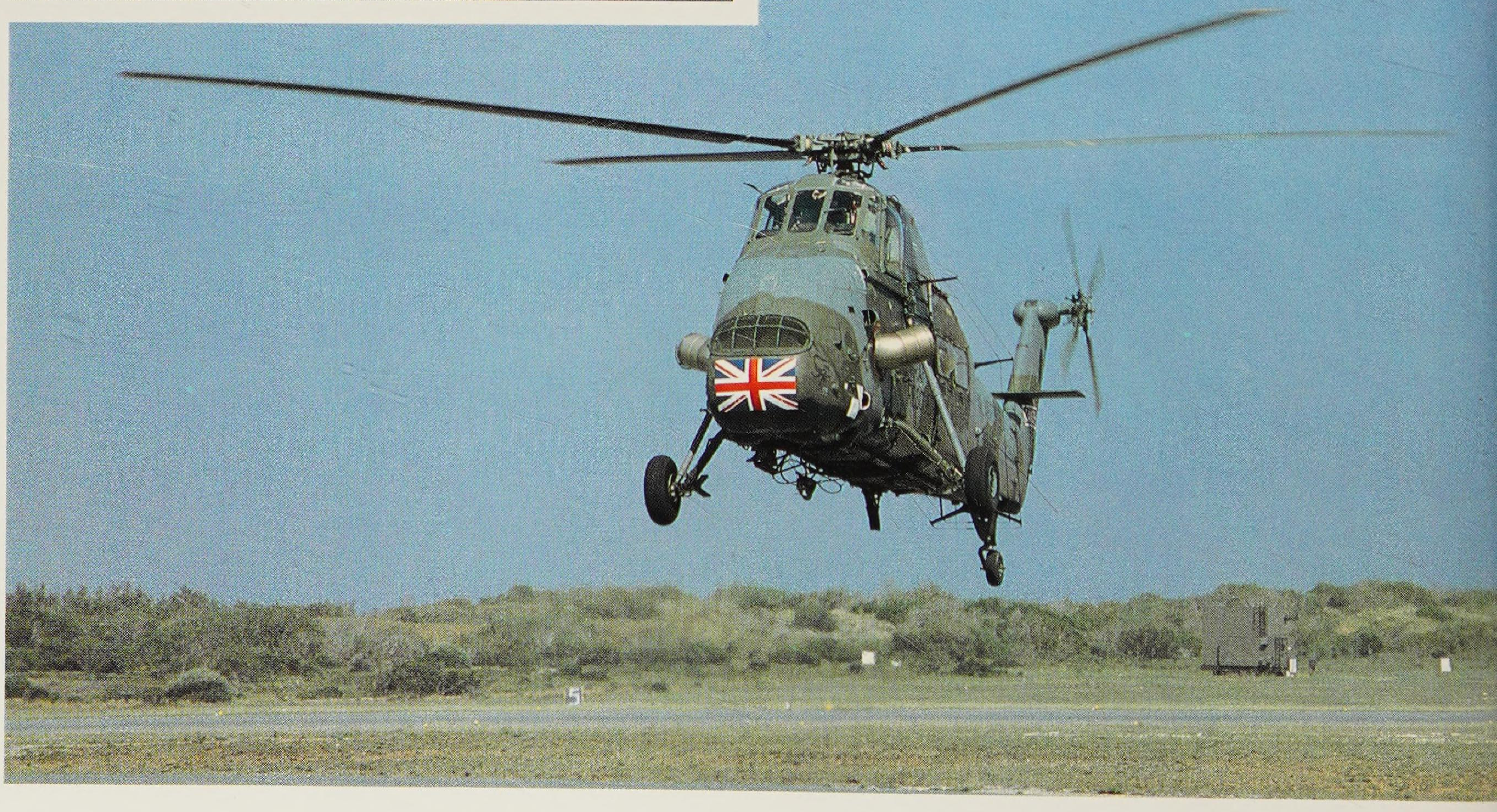


Below A clearly marked Westland Wessex HU.5 of No 84 Sqn landing at its base at RAF Akrotiri in Cyprus. The squadron is tasked with providing support, in the form of search and rescue (SAR), medivac and freight-carrying, for British and United Nations forces in Cyprus

Inset 'Showing the Flag' on the nose of this No 84 Sqn Wessex is for the benefit of the Turkish and Greek Cypriot border troops when the squadron is supporting UNFICYP. The Scorpion is part of the squadron's badge, its motto — *Scorpiones pungunt* 'Scorpions sting' — relates back to the 1920s when the unit served in the Persian Gulf

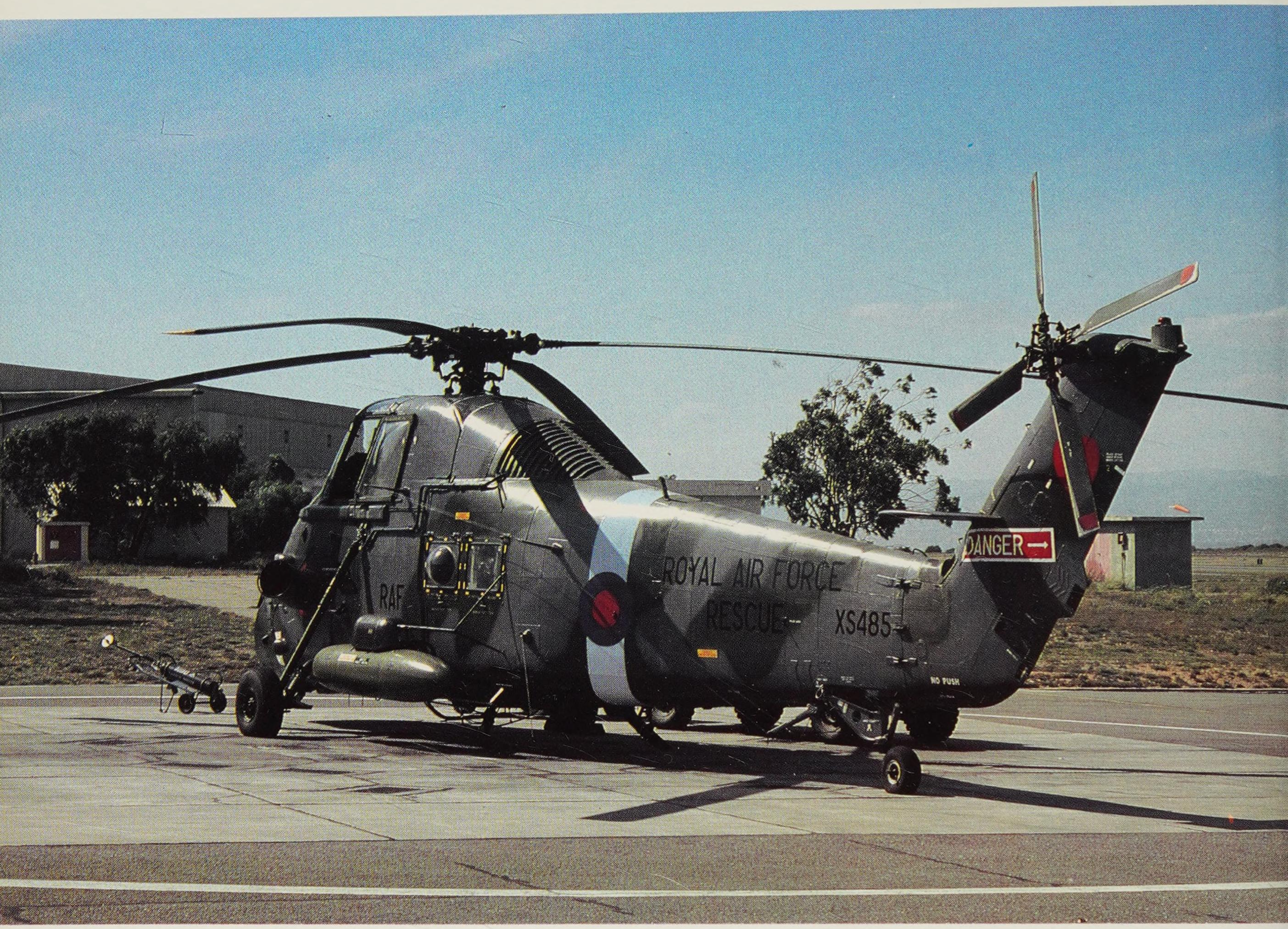
Right No 84 Sqn is unique in being the only RAF unit to operate the ex-Royal Navy HU.5 version of the ubiquitous Wessex, one of which is seen here, wearing the aircraft's individual 'Ace of Spades' symbol on the tail, with the winchman at the open door seen against a background of the rugged cliffs of Episkopi Bay



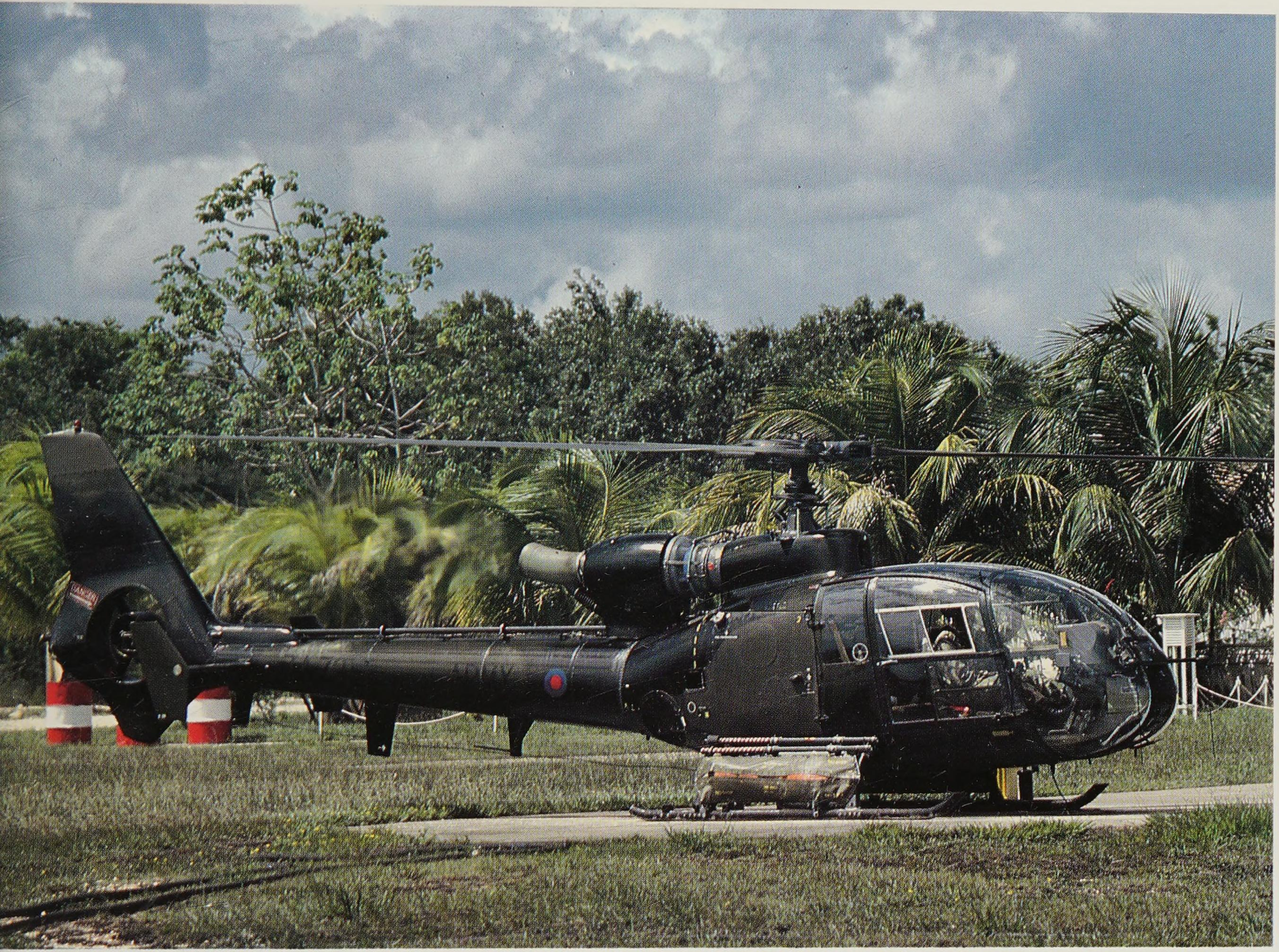


DANGER
ROYAL AIR FORCE
XS485
RESCUE
RAF
RESCUE

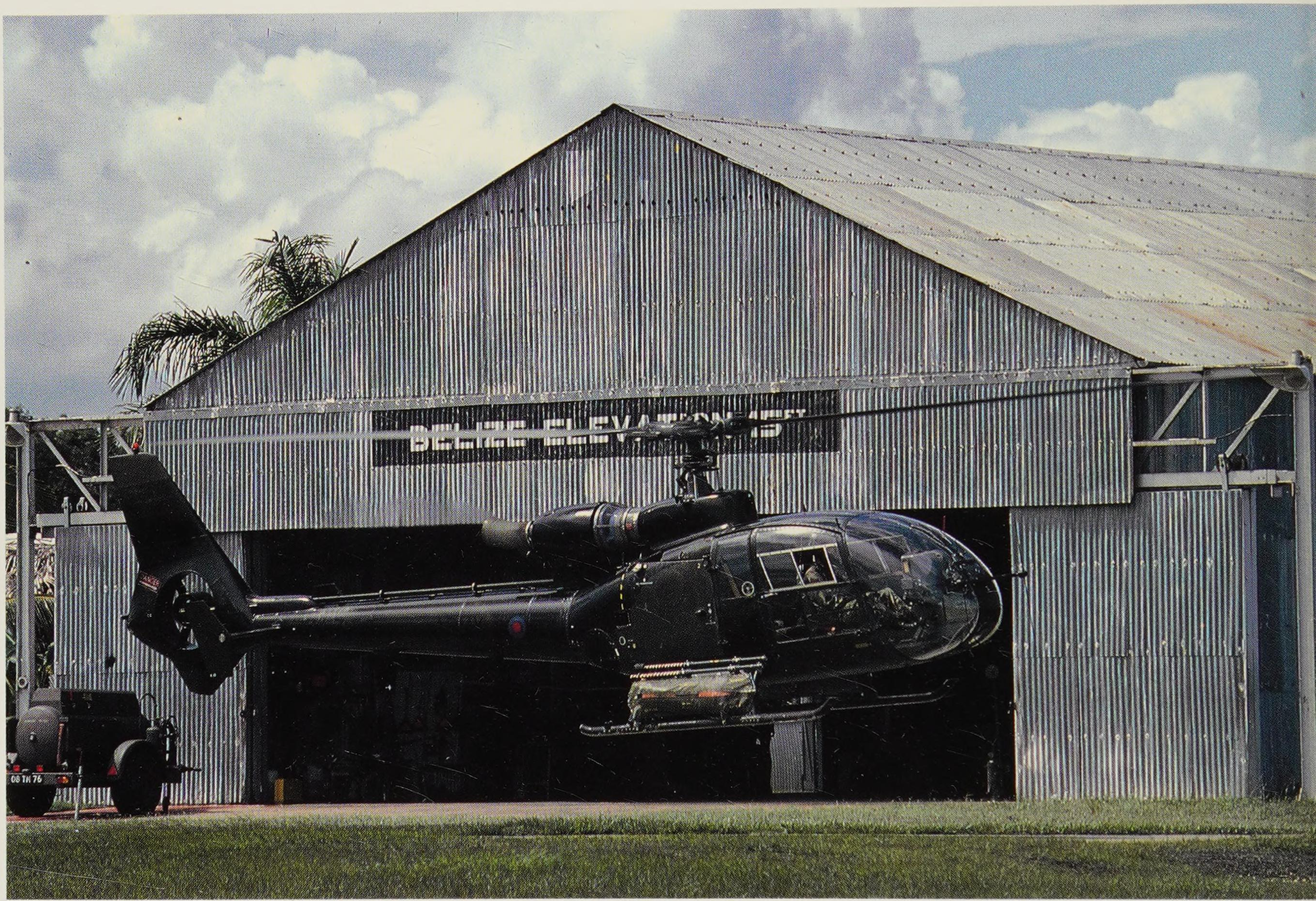
These pages One of No 84 Sqn's Wessex HU.5s practices SAR techniques by winching a crewman down to a Royal Corps of Transport vessel in Akrotiri Bay in April 1986. Six months later a Wessex from the same squadron crashed in Akrotiri Bay after picking up a sick serviceman from Dhekelia SBA. The copilot, winchman, and patient were lost


RAF
ROYAL AIR FORCE
RESCUE
XS485
DANGER
NO PUSH

A Wessex HU.5 of No 84 Sqn at RAF Akrotiri fitted with a 100 gal external long-range tank. When serving with the Royal Navy, the HU.5s were capable of carrying AS.12 wire-guided missiles but were disarmed when transferred to the RAF in 1985

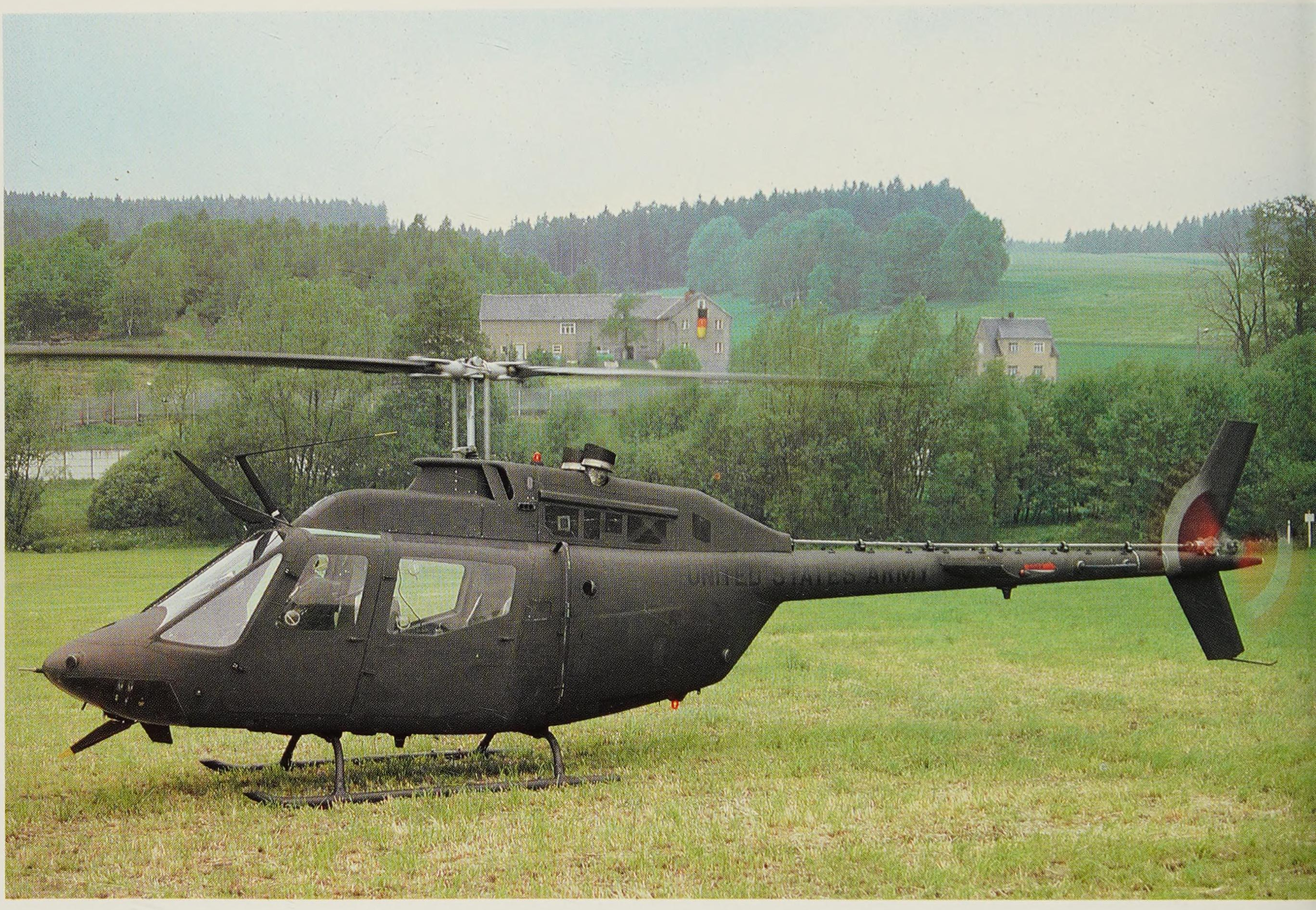


A 25 Flight Army Air Corps (AAC) Gazelle AH.1 runs up at Airport Camp, Belize, against a typical jungle background in September 1985. The primary task of the Flight's three unarmed Gazelles is to provide reconnaissance and liason for British Army units during training and surveillance of Guatemalan troops on the border as part of Operation Blackbird



A Gazelle AH.1 lifts off from 25 Flight's base in Belize at the start of a border recce. The five-seat utility helicopter differs from AAC Gazelles in the UK and West Germany by having permanently-fitted flotation gear. Extended flights by the single-engined Gazelle over the jungles and mountain ranges that cover most of Belize are restricted

Right Some of the 29 Bell OH-58C Kiowa Scouts operated by the 2nd CAS out of Feucht Army Airfield located on the outskirts of Nurnberg. More than 2000 of these LOHs (light observation helicopters), a close relative to the civil JetRanger, were built for the US Army, 275 of which were rebuilt to OH-58C standard with an uprated 420 shp Allison 250-C20B engine

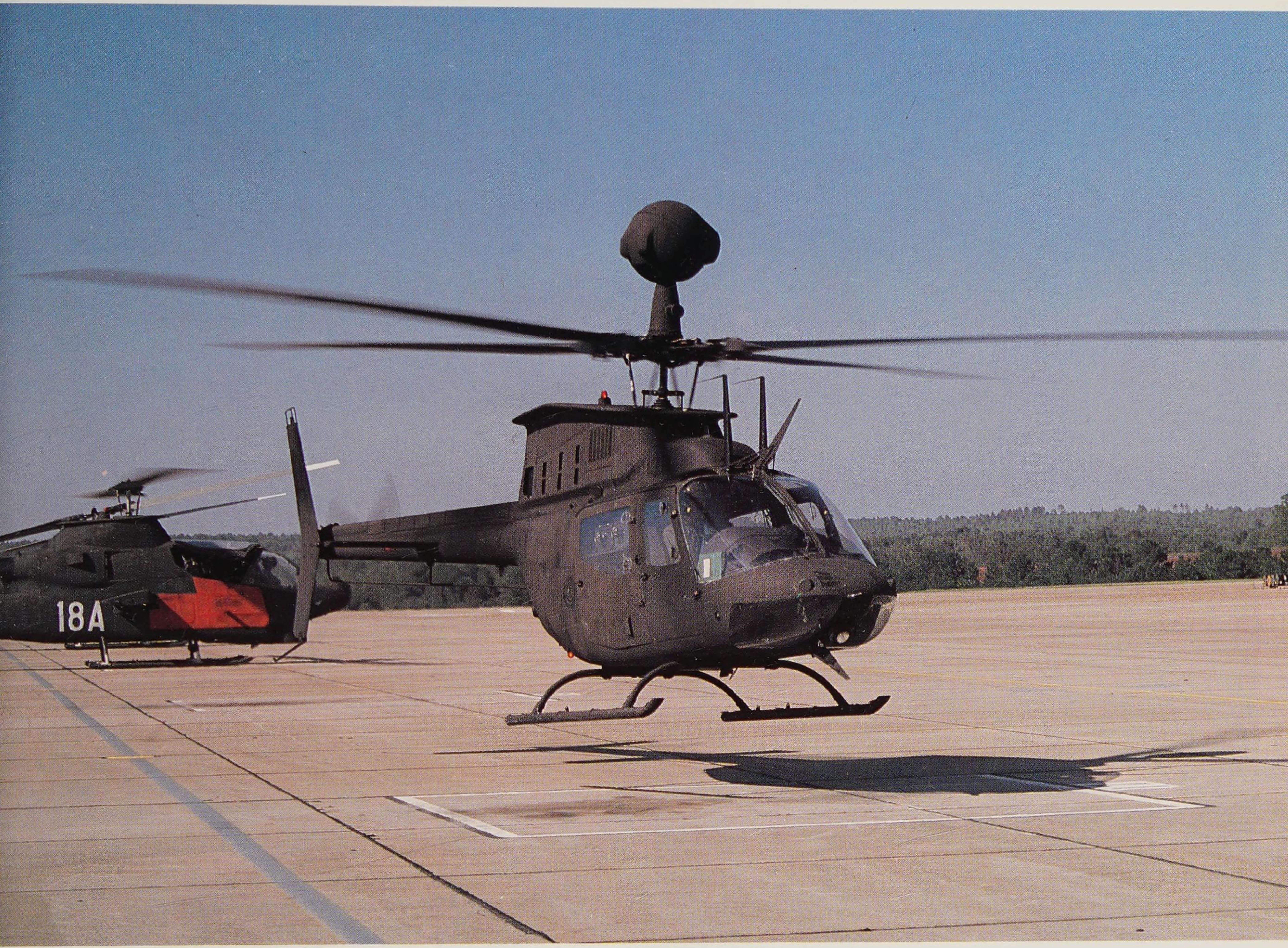


An unarmed 'Charlie' model OH-58 Scout belonging to Echo Troop of the 2nd Combat Aviation Squadron, the 'Red Catchers'. The 2nd CAS based at Feucht Army Airfield are the only US Army aviation unit to be tasked with guarding 405 miles of the border between Federal Germany and East Germany and Czechoslovakia. Delta, Echo and Fox Troops, equipped with OH-58Cs and AH-1S Cobras, undertake aerial surveillance of the southern sector of the Iron Curtain, known as 'border traces' as well as being capable of normal attack missions. The Scout (pictured here in June 1986) is sitting within 500 yards of the East German border wall that divides the village of Modlereuth in the background, which is known to the 'Red Catchers' as Little Berlin

A 2nd CAS OH-58C in the weeds near Feucht Army Airfield in southern Germany. The four-seat 'Charlie' version of the Scout is distinquished from earlier versions by having infrared suppressed exhaust nozzles, flat glass cockpit panels to cut down glare, and cable cutters above and below the cockpit

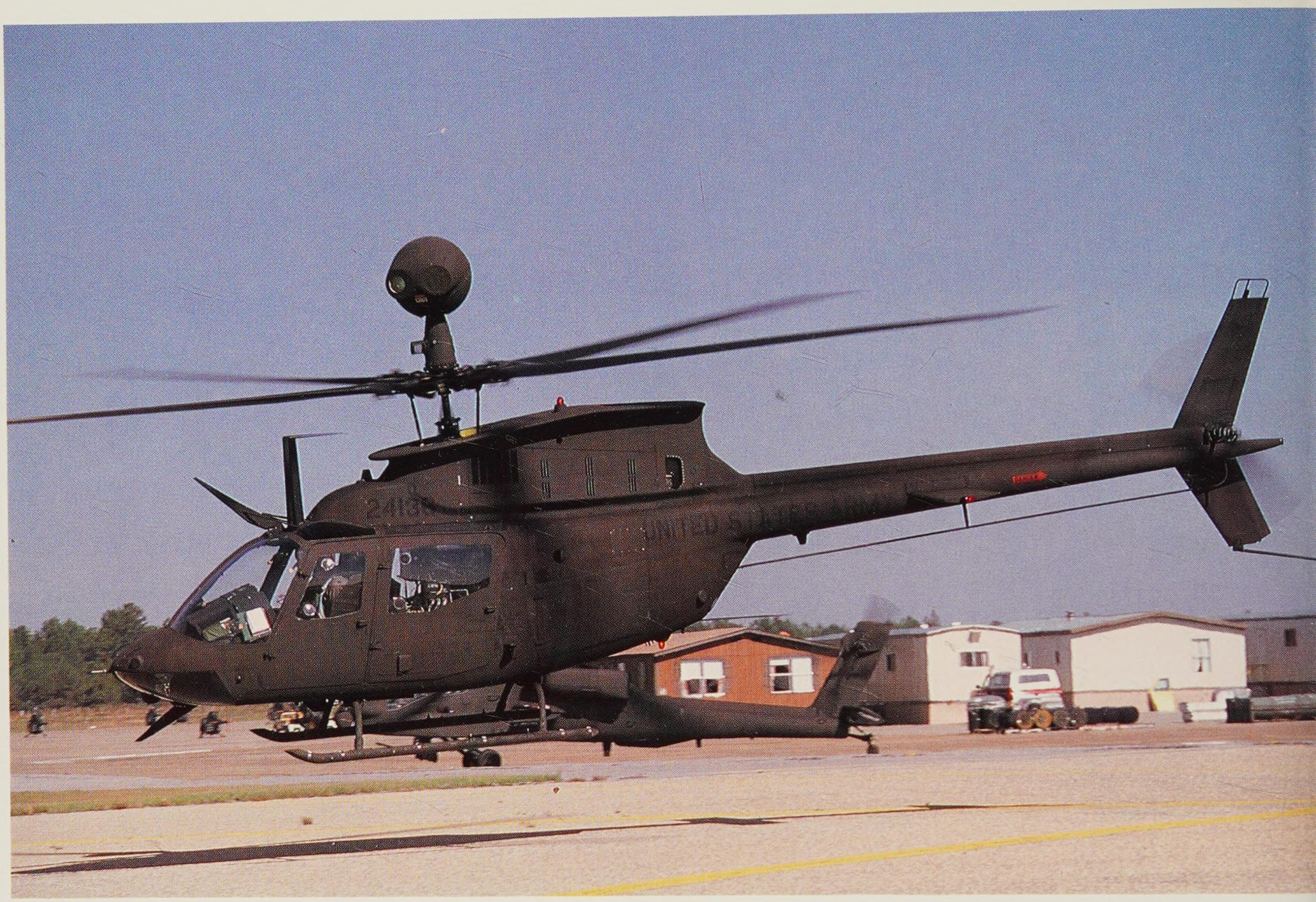
20444
UNITED STATES ARMY

Right 'Red Catcher 69' keeps a wary eye on the Czechoslovak skyline from a 2nd CAS OH-58 Scout during a border trace. The unit has the dubious distinction of being the only US Army aviation unit to have been engaged by Warsaw Pact aircraft when, in September 1985, a Czech L39 was reported to have fired a rocket at a similar OH-58. CWO John Vandenberg gained his covetted individual 'Red Catcher' callsign by training in his sector of surveillance for a minimum of 60 flight hours and memorizing more than eighty visual checkpoints — not counting hills, towns and border crossings



Left In 1981 a development of the OH-58 won the US Army's AHIP (Army Helicopter Improvement Program) contest and 578 improved Bell OH-58Ds were ordered for delivery by 1991. The 'Delta' Kiowa is a rebuilt OH-58C with a 650 shp Allison Model 250-C30R turboshaft, a four-bladed rotor and the distinctive McDonnell Douglas mast-mounted sight (MMS)

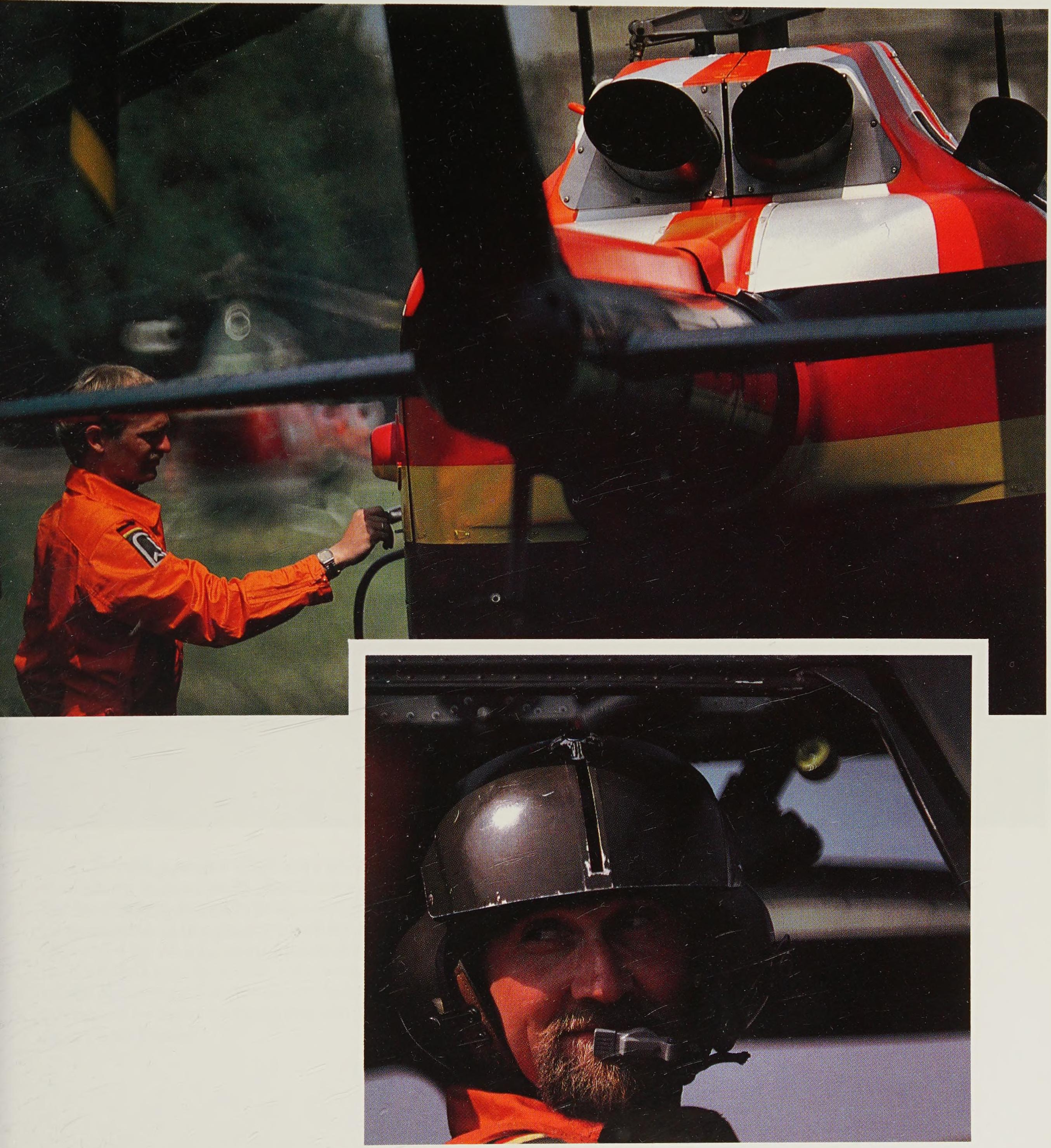
Some of the first production OH-58D Kiowas were delivered to Task Force 1-112, an evaluation unit at Fort Rucker, one of which is seen here at Hanchey Heliport in November 1986

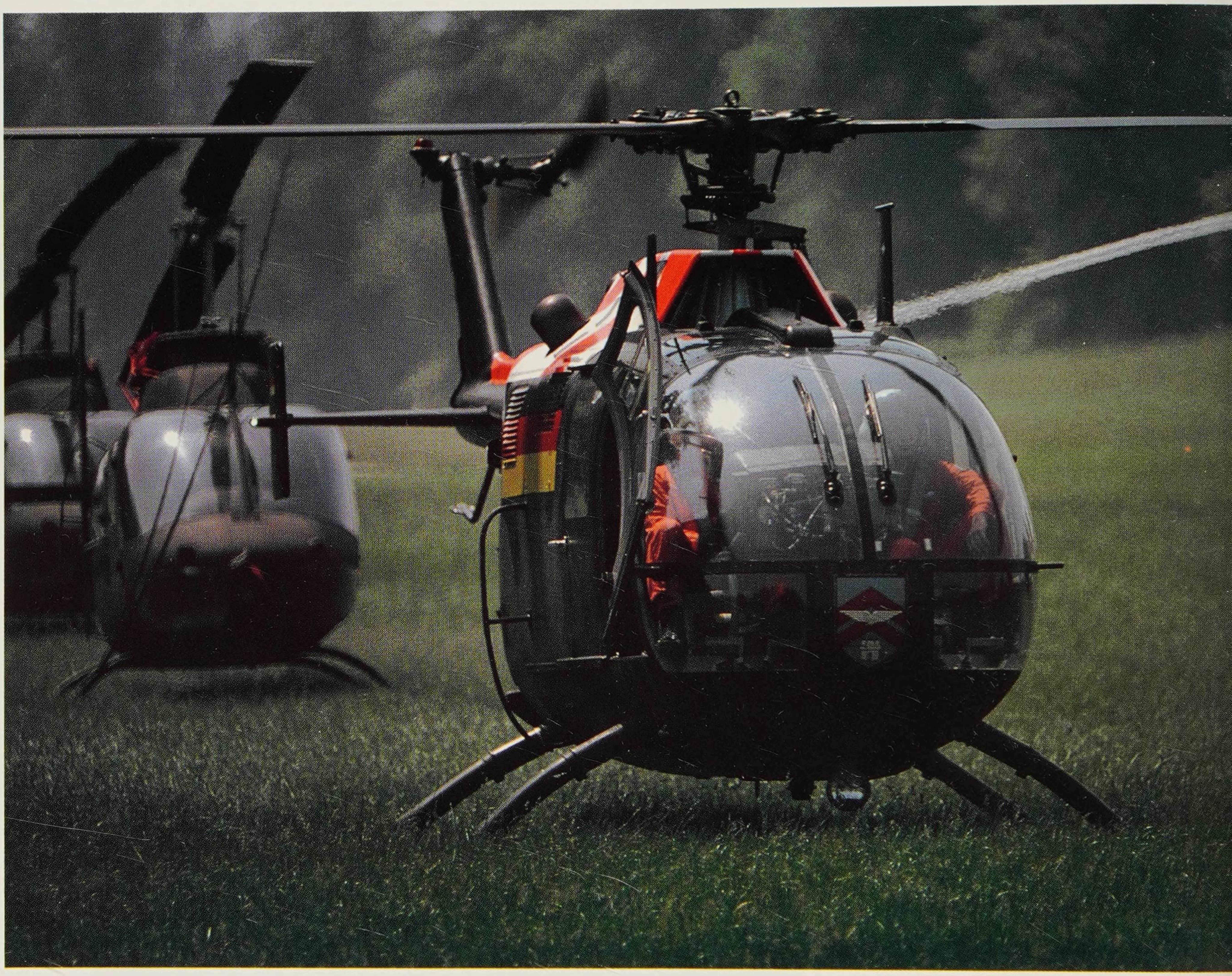


By the end of 1986 the US Army was having a rethink on the role of the complex and expensive OH-58D Aeroscout, originally that of close-combat reconnaissance to support attack helicopter missions and direct artillery fire, and orders were cut back to 134. The AHIP's complex avionics and integrated multiplex cockpit systems fill the rear cabin of the OH-58D to such an extent that there is no room left for the crew's helmet bags

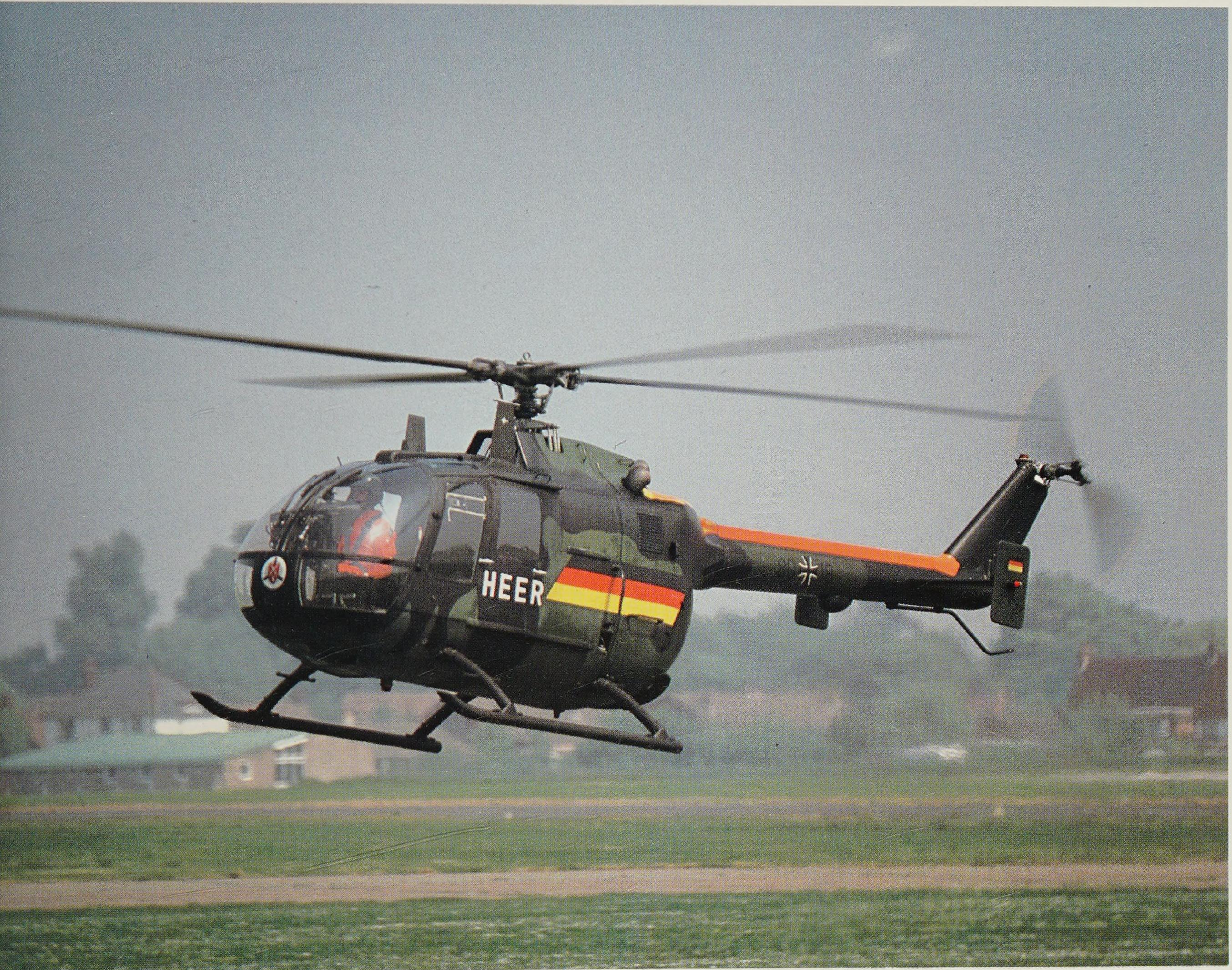
Top right A *Heeresflieger* crewman unlocks a gaudily painted MBB BO.105M at Castle Ashby during the World Helicopter Championships. This versatile and manoeuvrable machine is normally based at Celle serving with *Panzer-AbwehrRegiment 16* in the observation/liason role.

Inset Winner of the 1986 World Helicopter Championship Free Style Event was Lieutenant Herman Fuchs flying an MBB 105M from the *Heeresflieger* school at Buckeburg





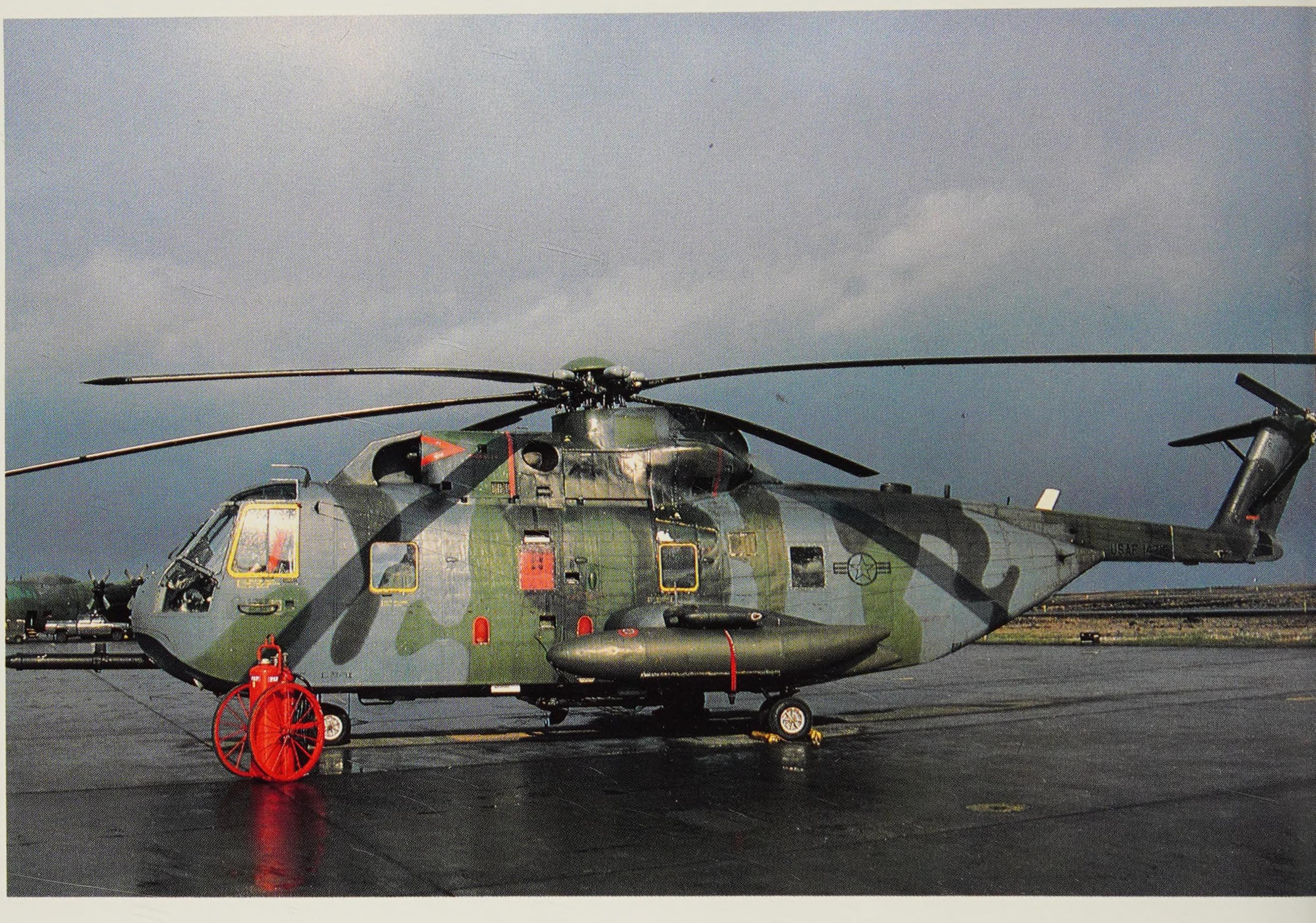
Three times World Free Style Champion, *Heeresflieger* Captain Charly Zimmerman of the PAR-16 at Celle runs up his colourful BO.105M at Castle Ashby prior to an unsuccessful defence of his title at the 5th World Helicopter Championships



Heeresflieger Lieutenant Wikle of PAR-16 competing in the World Free Style Championships at Cranfield in June 1986. The 'aerobatic' performance of the rigid rotor MBB BO.105M (powered by two 420 shp Allison 250-C20B turboshafts) has increased relevance as the concept of the helicopter's air-to-air combat role is evaluated by army aviation units in the United States and Europe

Combat rescue

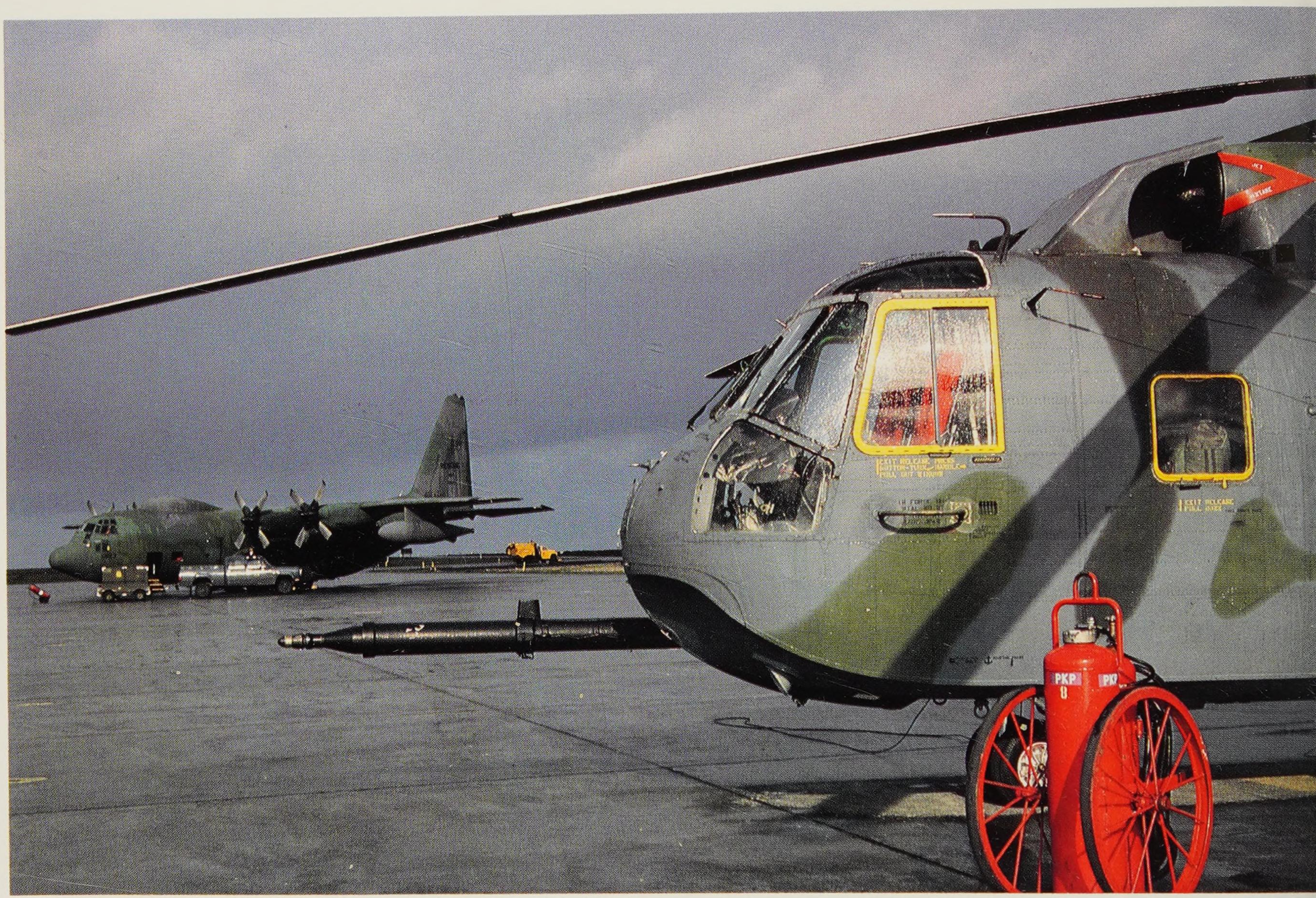
One of three amphibious Sikorsky HH-3E 'Jolly Green Giant' USAF combat rescue helicopters from Detachment 14 of the 67th Aerospace Rescue & Recovery Squadron (ARRS) on standby at Kaflavik NAS in Iceland



The USAF's Tactical Air Command (TAC) developed the HH-3E for aircrew rescue missions deep into North Vietnam during the Vietnam War in the mid sixties, where it rescued 567 airmen and earned its nickname 'Jolly Green Giant'. The HH-3E is powered by two 1400 shp General Electric T58-GE-10 turboshafts giving it a maximum sea level speed of 166 mph. It carries a crew of three and can accomodate up to 25 passengers or 15 litters and has provision for three 7.62 mm Miniguns

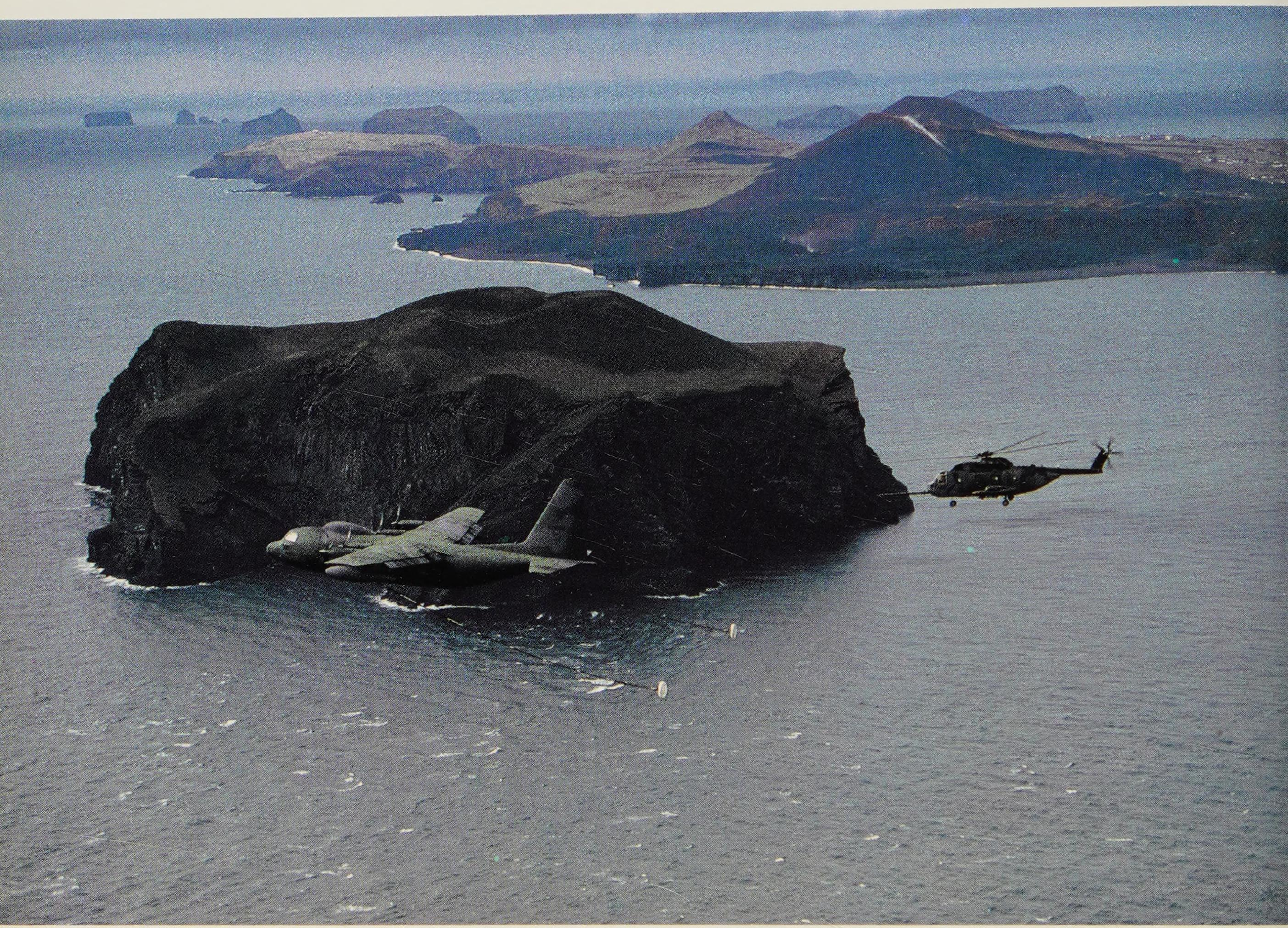
Right By carrying two external jettisonable fuel tanks the 'Jolly Green Giant's' unrefuelled range is extended to 625 miles, but with its inflight refuelling capability (the probe is seen here in the extended position), the only restriction to the HH-3E's range is crew fatigue. The first nonstop transatlantic flight by a helicopter was made by two HH-3Es in June 1967. Nine aerial refuellings were made during the 4270 mile flight, which took 30 hours and 46 minutes

4715



The refuelling probe of a Det 14 HH-3E stands out against the backdrop of a 67th ARRS HC-130N Hercules tanker on the ramp at Keflavik. Based at RAF Woodbridge in Suffolk, England, the 67th ARRS is required to deploy an HC-130N to Keflavik each week to support Det 14 operations

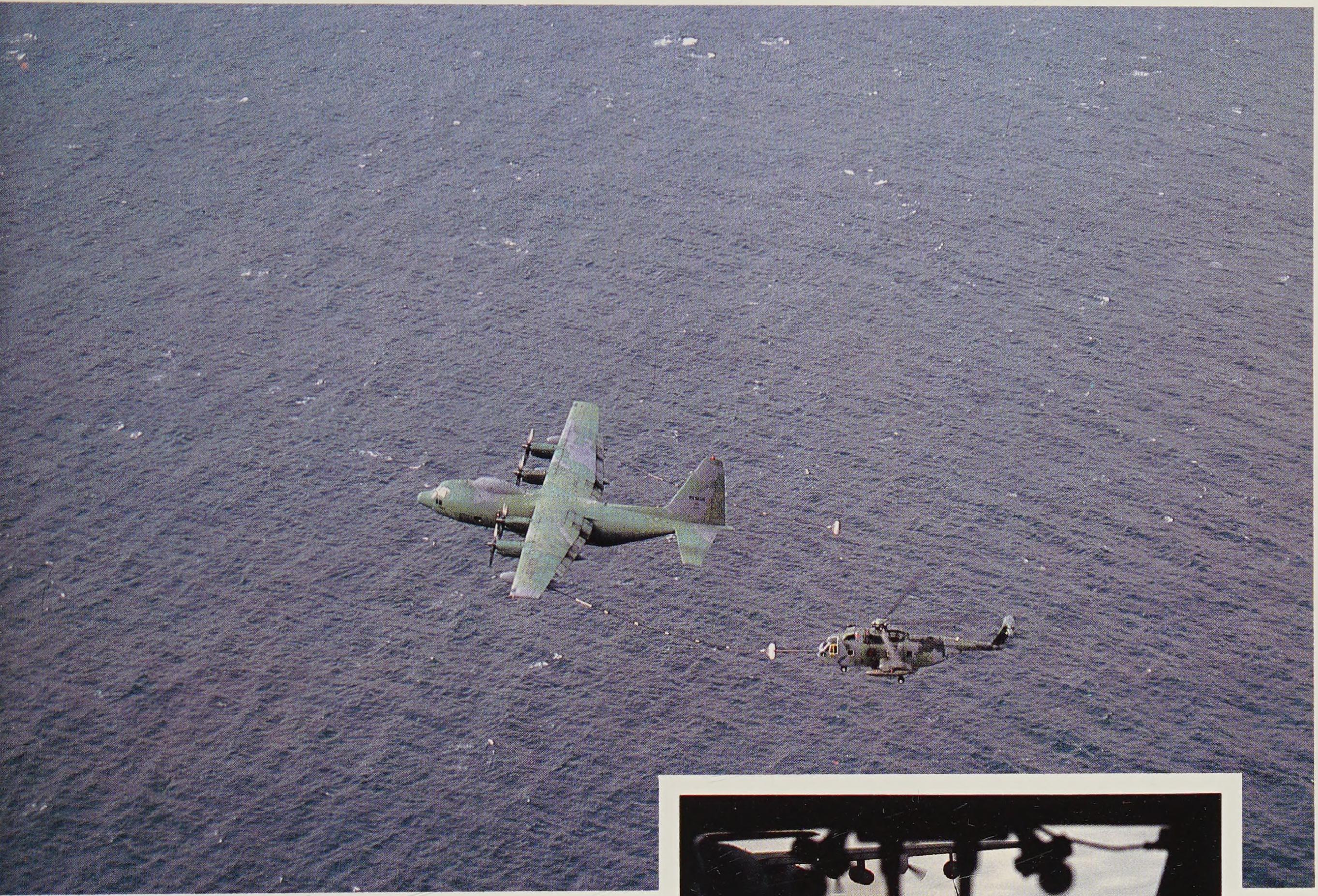
Right Since 1971, Detachment 14 of the 67th ARRS has been tasked with providing SAR support to the Iceland Defence Force (COMICEDFOR) and for US forces operating out of Keflavik. Det 14's area of responsibility covers an area of a million square miles, between Greenland, Norway and the North Pole!

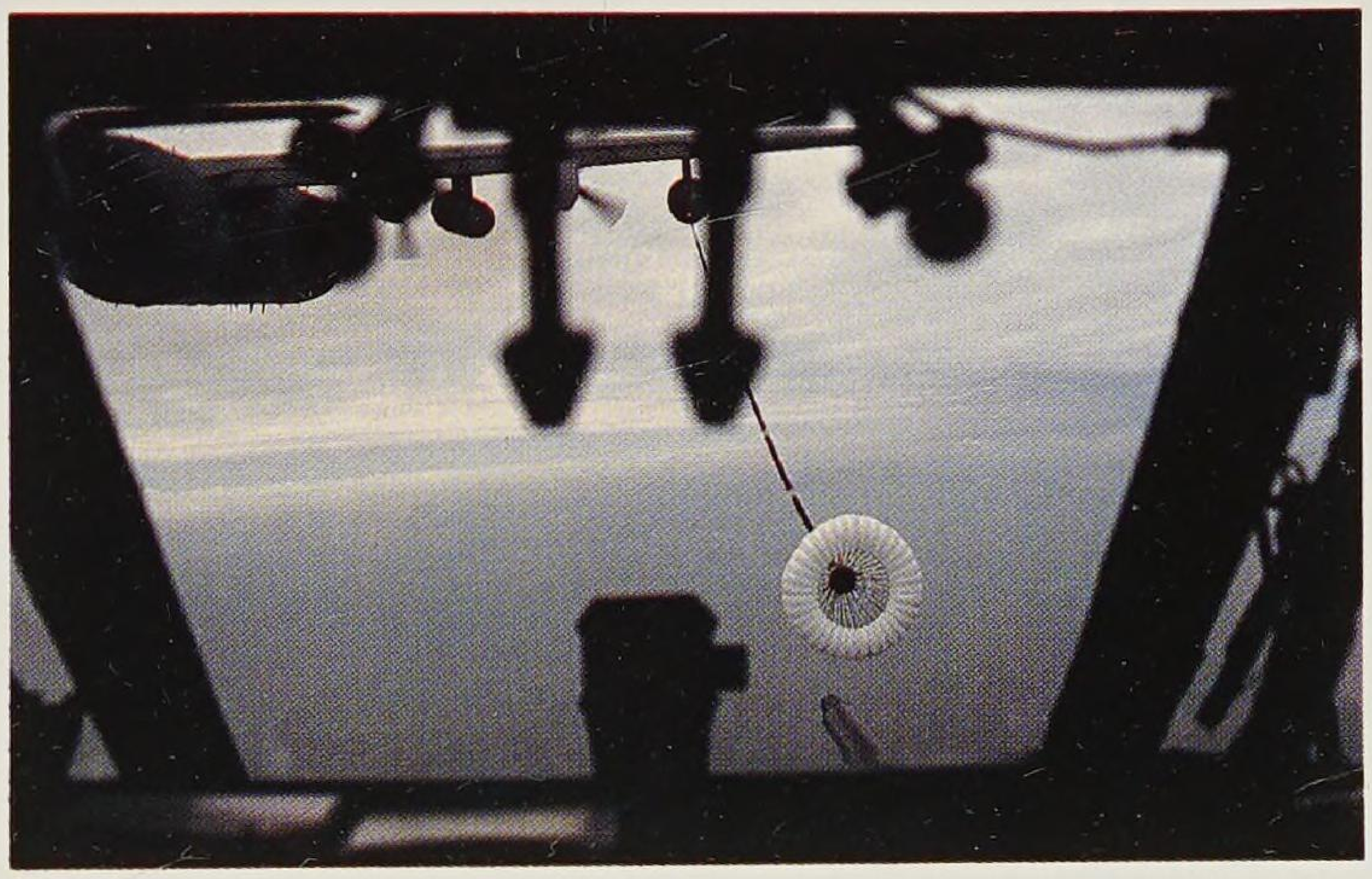


HC-130N callsign KING 23 and HH-3E callsign JOLLY 17 framed by the rugged, volcanic Westman Islands off the coast of southern Iceland in May 1985

Right KING 23 trails its two drogues as JOLLY 17 prepares to be refuelled

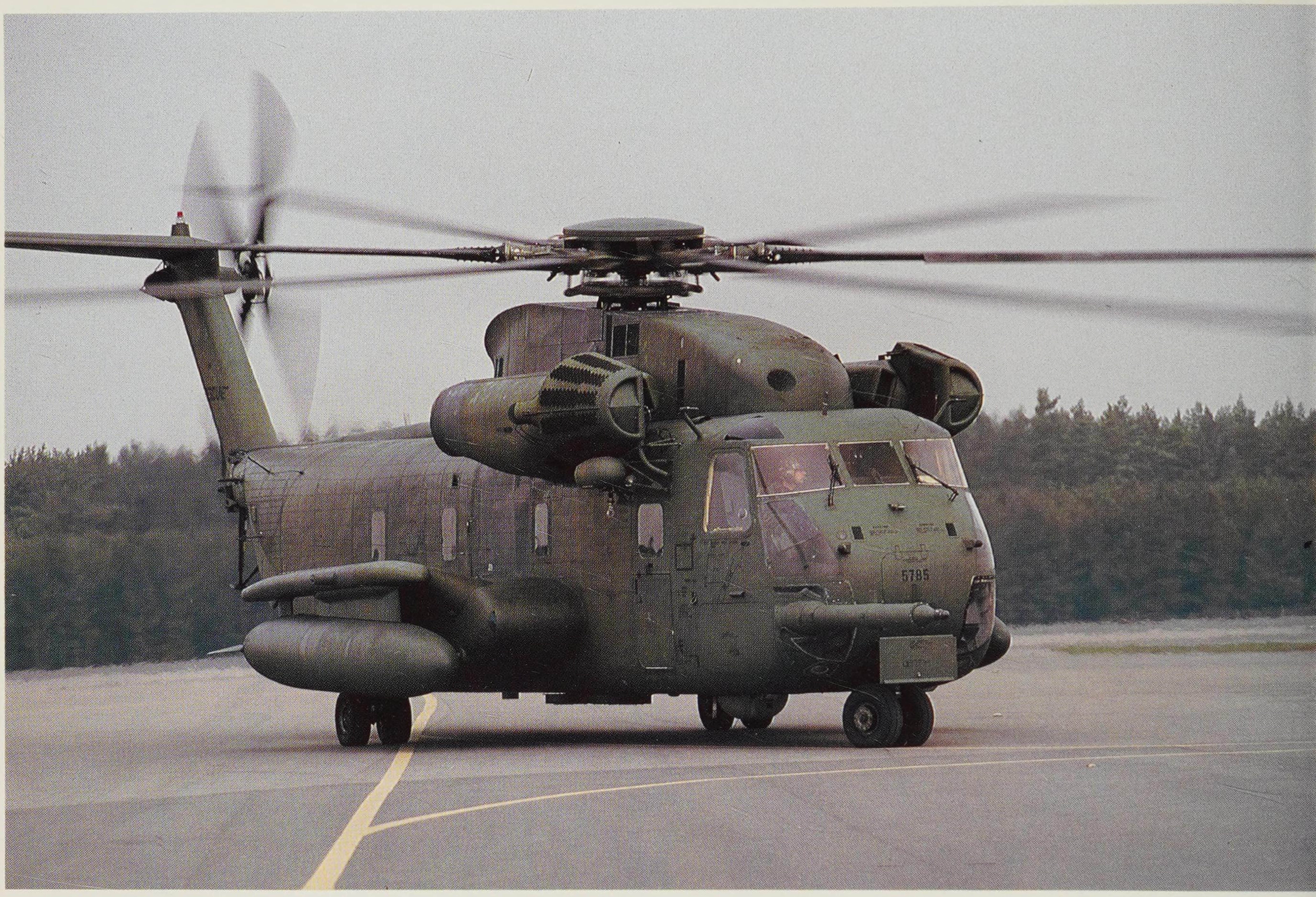
Overleaf With the HC-130N slowed to near stalling speed, the Det 14 HH-3E accelerates in a shallow dive, aiming its refuelling probe at the basket



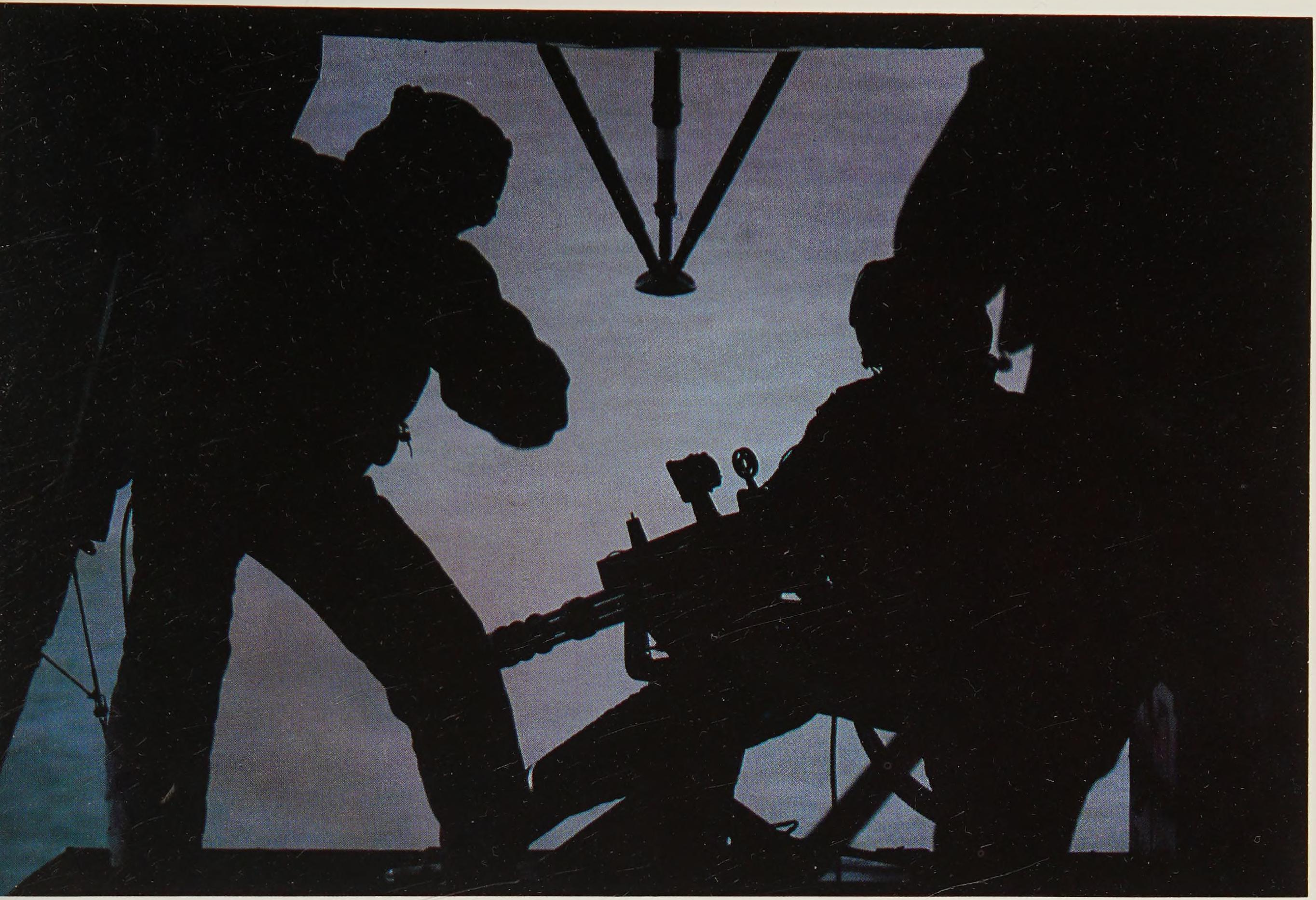


Opposite page Having made successful contact with KING 23, JOLLY 17 takes on fuel at the rate of 1000 lb/min

Aerial refuelling low and slow over the icy waters off Iceland is a hazardous business, especially in the unpredictable weather conditions prevalent around the island. **Inset** The view from the cockpit of a 67th ARRS HH-53C 'Super Jolly Green Giant' from RAF Woodbridge over the North Sea in January 1987 as the pilot attempts to lance the basket as it bucks in the slipstream from the HC-130N tanker flying only a few feet away from the rotor tips of the helicopter

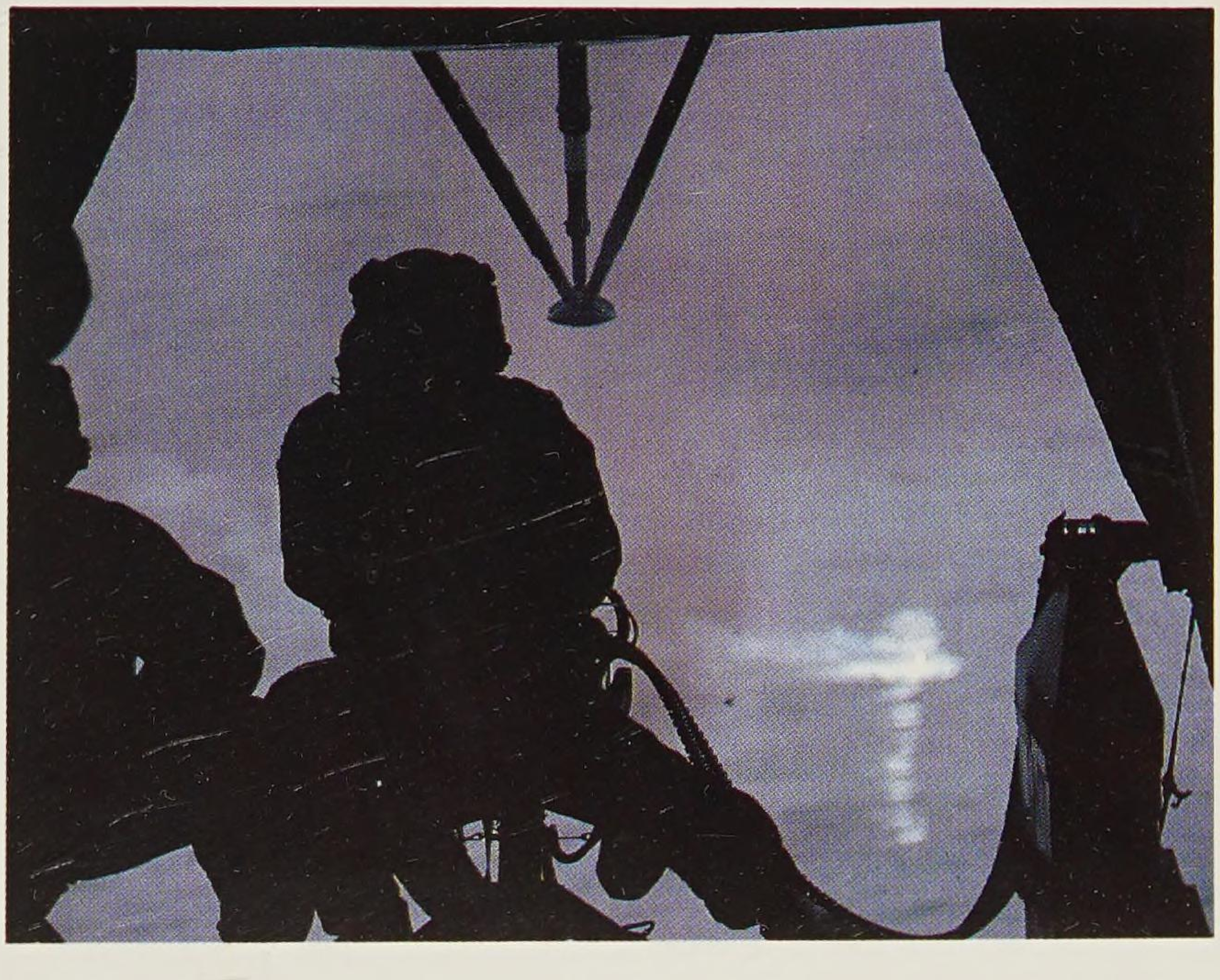


A Sikorsky HH-53C 'Super Jolly Green Giant' combat rescue helicopter at Woodridge in March 1987, home of the 67th ARRS. During Operation El Dorado Canyon — the US bombing attack on Libya in April 1986 — the 67th ARRS was deployed to Italy to provide SAR support for the mission



A pararescueman/parajumper (PJ) firing an M135 7.62 mm Minigun from the rear ramp of a 'Super Jolly' over the North Sea in January 1987

Right Water is kicked up around the target marker as the PJ gets the range. This particular HH-53C took part in the famous Son Tay prison raid near Hanoi in 1972, and the rescue of the crew from the spy ship *Mayaguez*, which was attacked by Cambodian forces in May 1975



The HH-53C is armed with three 7.62 mm Miniguns to provide suppressive fire. A flight engineer losses off a 1600-round burst from the side door position

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